Emerson

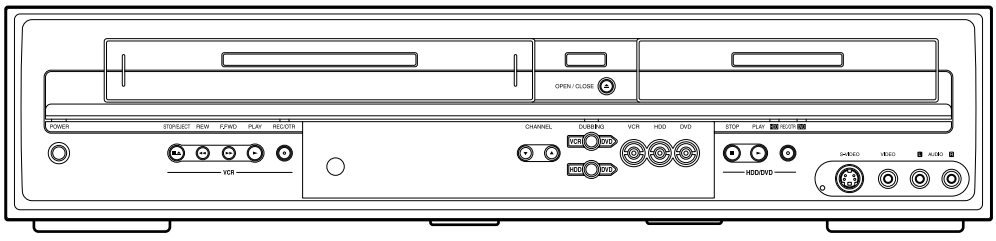
SERVICE MANUAL

Main Section
- Specifications
- Preparation for Servicing
- Adjustment Procedures
- Schematic Diagrams
- CBA's
- Exploded Views
- Parts List

The Part No. of the Deck Mechanism used in this model is N2461FL, but when servicing the deck mechanism, refer to N2460FL in the MK14 Deck Mechanism Section.

DVD/Video Cassette Recorder with HDD

EWH100F



VHS

IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

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MAIN SECTION

DVD/Video Cassette Recorder with HDD

EWH100F

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- **Specifications**
- **Preparation for Servicing**
- **Adjustment Procedures**
- **Schematic Diagrams**
- **CBA's**
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SPECIFICATIONS

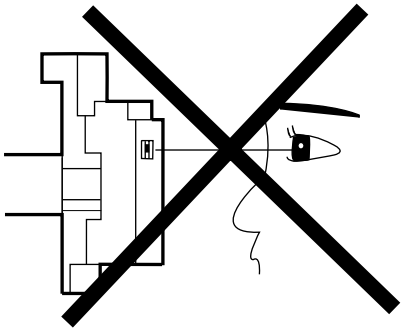
ITEM	
General	
HDD	Internal 3.5 inch HDD 80 GB
Power consumption	44W (standby: 4.6W)
Recording	
Recording format	Video Recording Format (DVD-RW only) Video Format (DVD-RW, DVD-R)
Recordable discs	DVD-ReWritable DVD-Recordable
Video recording format Sampling frequency Compression format	 13.5MHz MPEG
Audio recording format Sampling frequency Compression format	 48kHz Dolby Digital
Tuner	
Receivable channels VHF UHF CATV	 2-13ch 14-69ch C1-C125ch
Input/Output	
Video input Input level Jacks	Input 1 (rear), 2 (front) 1 Vp-p (75Ω) RCA jack
S-Video input Y (Iuminance) - Input level C (color) - Input level Jacks	Input 1 (rear), 2 (front) 1 Vp-p (75Ω) 286 mVp-p (75Ω) 4 pin mini DIN
Audio input During audio input Jacks	Input 1 (rear), 2 (front) L/R 2V rms (47kΩ) RCA jacks
Component video output Output level Jacks	 Y: 1.0 Vp-p (75Ω), P_B/C_B, P_R/C_R: 0.7 Vp-p (75Ω) RCA jacks
Video output Output level Jacks	 1 Vp-p (75Ω) RCA jack
S-Video output Y (Iuminance) - Output level C (color) - Output level Jack	 1 Vp-p (75Ω) 286 mVp-p (75Ω) 4 pin mini DIN
Audio output During audio output Jacks	Output 1,2 L/R 2V rms (47kΩ) RCA jacks
Digital audio output Output level Jack	 500 mVp-p (75Ω) RCA jack
VHF/UHF antenna input/output terminal	 VHF/UHF set 75Ω

NOTES:

1. All Items are measured without pre-emphasis unless otherwise specified.
2. Power supply: AC120 V 60 Hz
3 Ambient temperature: 5 °C ~ 40 °C

LASER BEAM SAFETY PRECAUTIONS

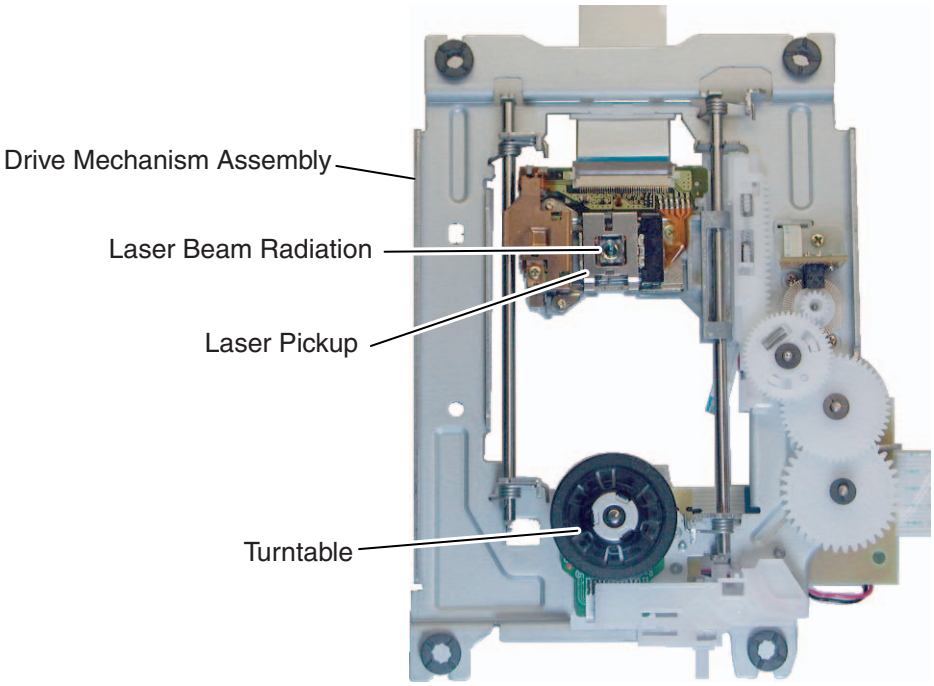
This DVD player uses a pickup that emits a laser beam.



Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 30 cm away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

CAUTION: Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.



DANGER - VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
CAUTION - VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ATTENTION - RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE EXPOSITION DANGEREUSE AU FAISCEAU.
注意 - ここを開くと可視及び不可視のレーザー光が出ます。ビームを直接見たり、触れたりしないでください。

Location: Inside Top of DVD mechanism.

IMPORTANT SAFETY PRECAUTIONS

Product Safety Notice

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by a ⚠ on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are carefully inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

A. Parts identified by the ⚠ symbol are critical for safety. Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements. Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:
1) Wires covered with PVC tubing
2) Double insulated wires
3) High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:
1) Insulation tape
2) PVC tubing
3) Spacers
4) Insulators for transistors

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.).

G. Check that replaced wires do not contact sharp edges or pointed parts.

H. When a power cord has been replaced, check that 5 - 6 kg of force in any direction will not loosen it.

I. Also check areas surrounding repaired locations.

J. Be careful that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

K. Crimp type wire connector
The power transformer uses crimp type connectors which connect the power cord and the primary side of the transformer. When replacing the transformer, follow these steps carefully and precisely to prevent shock hazards.
Replacement procedure
1) Remove the old connector by cutting the wires at a point close to the connector.
Important: Do not re-use a connector. (Discard it.)
2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.
3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
4) Use a crimping tool to crimp the metal sleeve at its center. Be sure to crimp fully to the complete closure of the tool.

L. When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC outlet.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts, and wires have been returned to their original positions. Afterwards, do the following tests and confirm the specified values to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1: Ratings for selected area

AC Line Voltage	Clearance Distance (d), (d')
120 V	≥ 3.2 mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

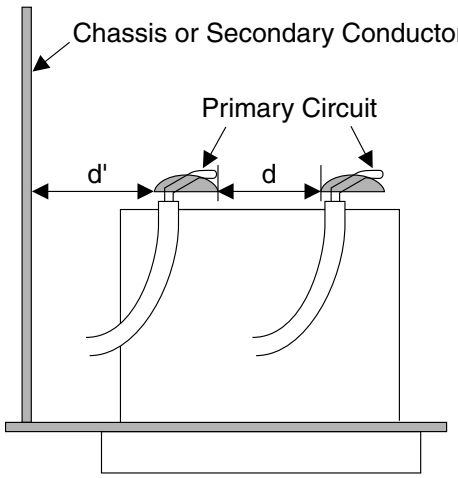


Fig. 1

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) is lower than or equal to the specified value in the table below.

Measuring Method (Power ON):

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across the terminals of load Z. See Fig. 2 and the following table.

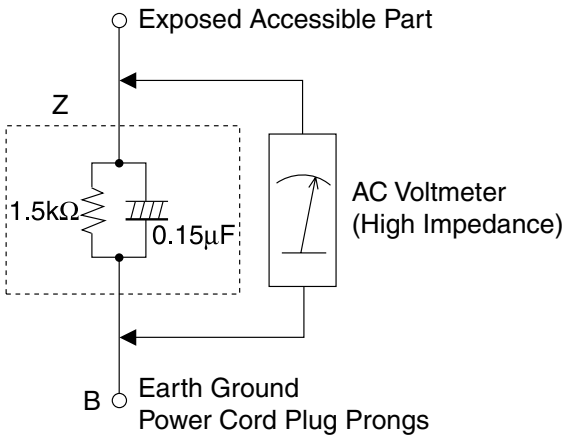


Fig. 2

Table 2: Leakage current ratings for selected areas

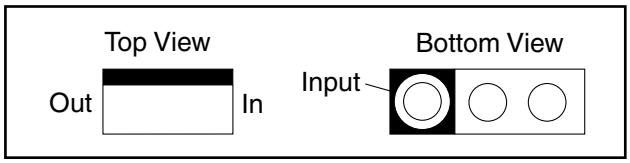
AC Line Voltage	Load Z	Leakage Current (i)	Earth Ground (B) to:
120 V	0.15 μF CAP. & 1.5 kΩ RES. Connected in parallel	i ≤ 0.5 mA Peak	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

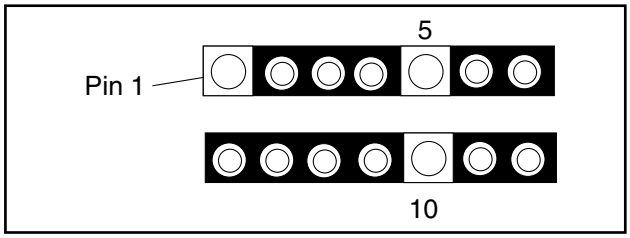
STANDARD NOTES FOR SERVICING

Circuit Board Indications

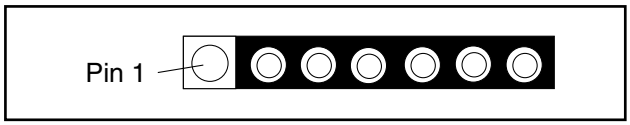
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



2. For other ICs, pin 1 and every fifth pin are indicated as shown.

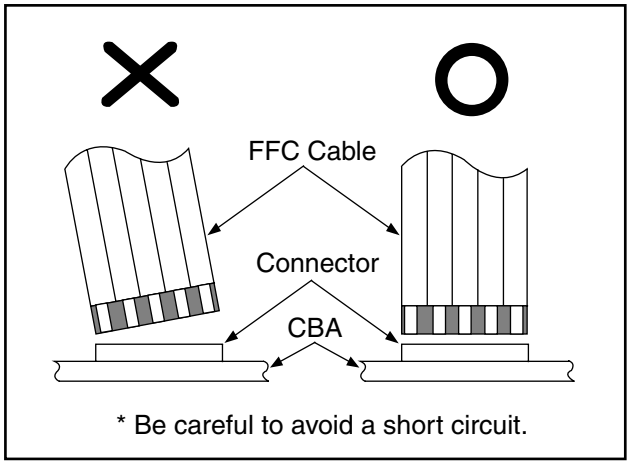


3. The 1st pin of every male connector is indicated as shown.



Instructions for Connectors

1. When you connect or disconnect the FFC (Flexible Foil Connector) cable, be sure to first disconnect the AC cord.
2. FFC (Flexible Foil Connector) cable should be inserted parallel into the connector, not at an angle.



Pb (Lead) Free Solder

When soldering, be sure to use the Pb free solder.

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

1. Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

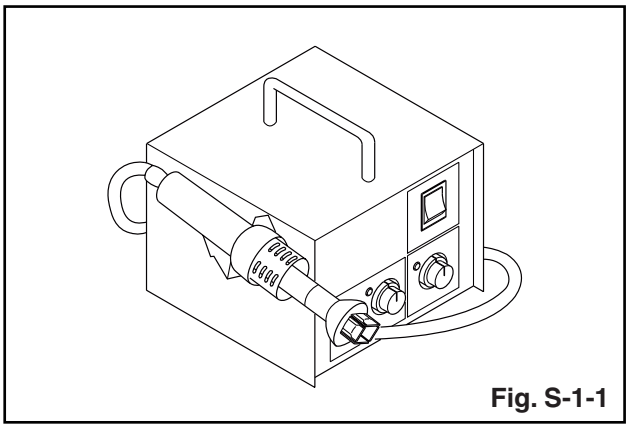


Fig. S-1-1

2. Remove the flat pack-IC with tweezers while applying the hot air.
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

CAUTION:

1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)

3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

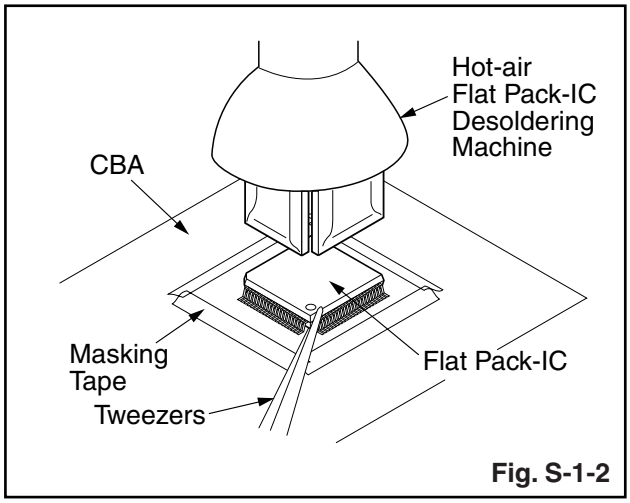


Fig. S-1-2

With Soldering Iron:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

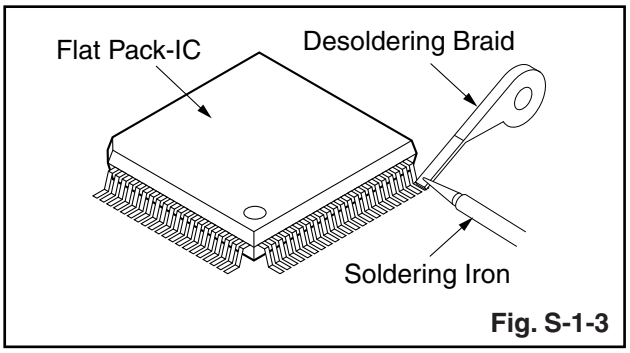


Fig. S-1-3

2. Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

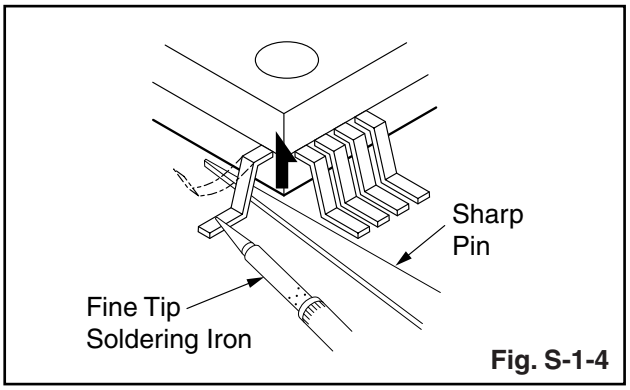


Fig. S-1-4

3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.
4. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
5. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Note: When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.

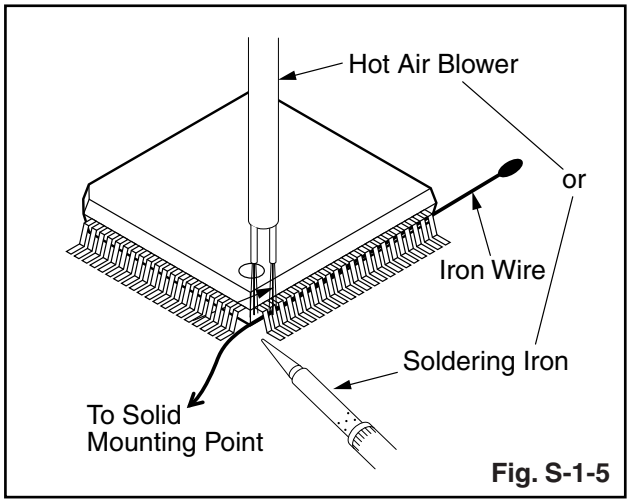


Fig. S-1-5

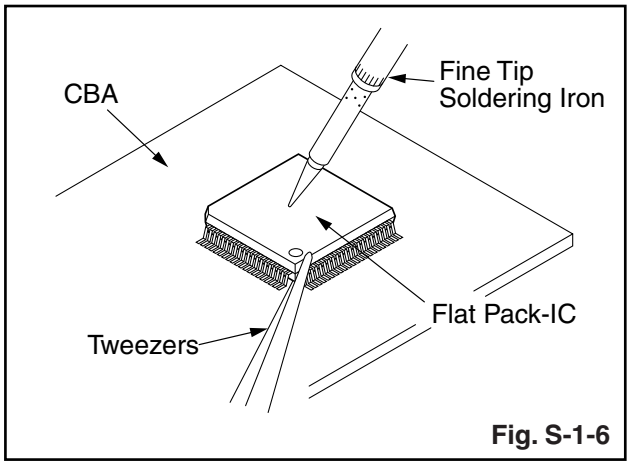


Fig. S-1-6

2. Installation

1. Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
2. The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)
3. Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

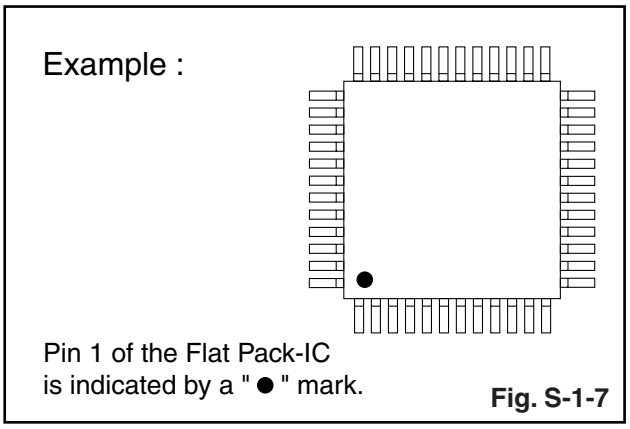


Fig. S-1-7

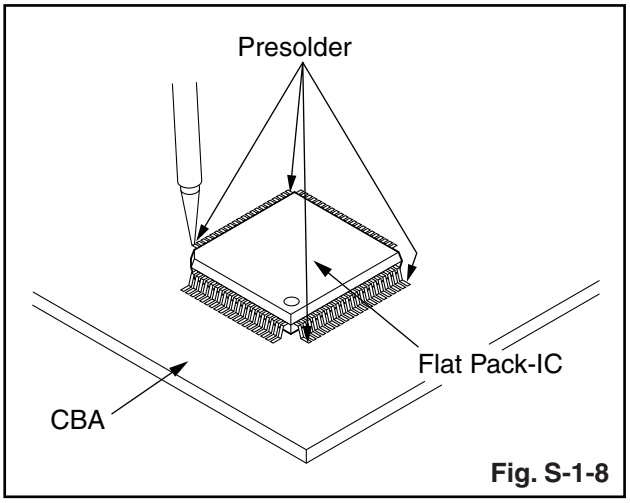


Fig. S-1-8

Instructions for Handling Semi-conductors

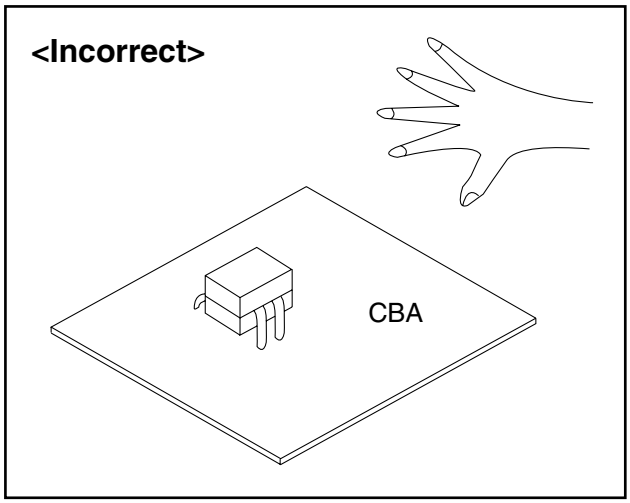
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

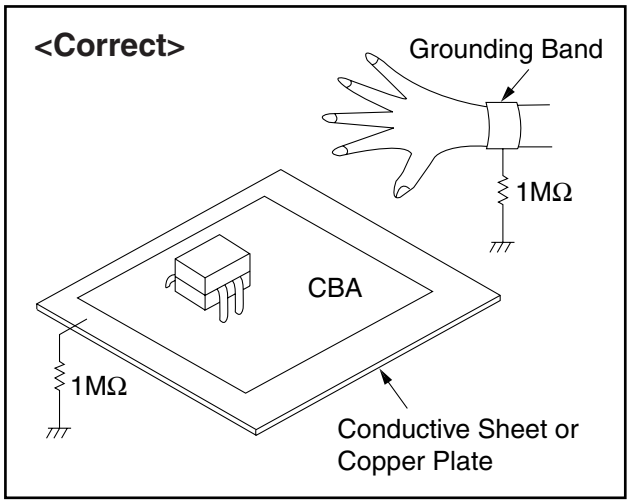
1. Ground for Human Body

Be sure to wear a grounding band (1 MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding (1 MΩ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.





HANDLING PRECAUTIONS FOR HDD

CAUTION:

1. SHOCK

a. Exposing HDD to shock may be the biggest damaging factor. Please note that HDD is easily damaged even if dropped from any height. Be sure to place HDD on a shock-absorbent mat. Also, be careful when transporting HDD.

b. Be careful not to subject HDD to any shock when tightening screws for HDD replacement. **(Tighten screws manually, not with an electric driver.)**

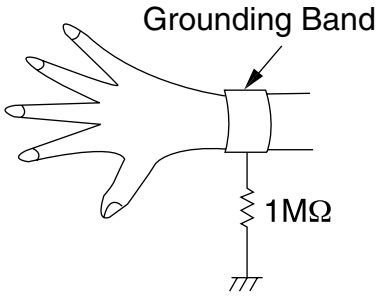
2. MOISTURE

a. Moisture may also be a damaging factor. HDD is semiclosed style. Sudden changes in ambient temperature may cause moisture to form. Monitor temperature and do not allow moisture to form on the media surface. Also, when opening HDD package, do so only after package is at ambient temperature.

b. After replacing HDD, leave it to reach room temperature (about 2 hours) for preventing dew internal condensation, and then work necessary task such as operation check.

3. STATIC ELECTRICITY

a. After removing HDD or taking replacement HDD out of the protective bag (the replacement HDD is packed in a protective bag), place HDD on a conductive surface. A grounding band should be worn when handling.



Both the conductive surface and grounding band should be grounded.

b. Make sure that HDD is placed on main unit completely and then let go of it, when assembling.

c. Do not put HDD on a packing bag. (for preventing electrostatic damage)

4. OTHERS

a. Be careful so as not to do the followings. Otherwise, HDD might be damaged.

- **DO NOT** disassemble HDD.
- When handling HDD, be sure to hold both sides securely.

b. HDD should be stored, packed in the protective bag, in suitable surroundings (i.e., no extreme changes in temperature to avoid condensation).

c. When transporting HDD, be sure to use the exclusive packing case (the replacement HDD carton).

d. Do not stack HDDs.

e. Do not place vertically because HDD is unstable and easy to fall.

PREPARATION FOR SERVICING

How to Enter the Service Mode

About Optical Sensors

Caution:

An optical sensor system is used for the Tape Start and End Sensors on this equipment. Carefully read and follow the instructions below. Otherwise the unit may operate erratically.

What to do for preparation

Insert a tape into the Deck Mechanism Assembly and press [VCR PLAY] button. The tape will be loaded into the Deck Mechanism Assembly. Make sure the power is on, connect TP4502 (S-INH) to GND. This will stop the function of Tape Start Sensor, Tape End Sensor and Reel Sensors. (If these TPs are connected before plugging in the unit, the function of the sensors will stay valid.) See Fig. 1.

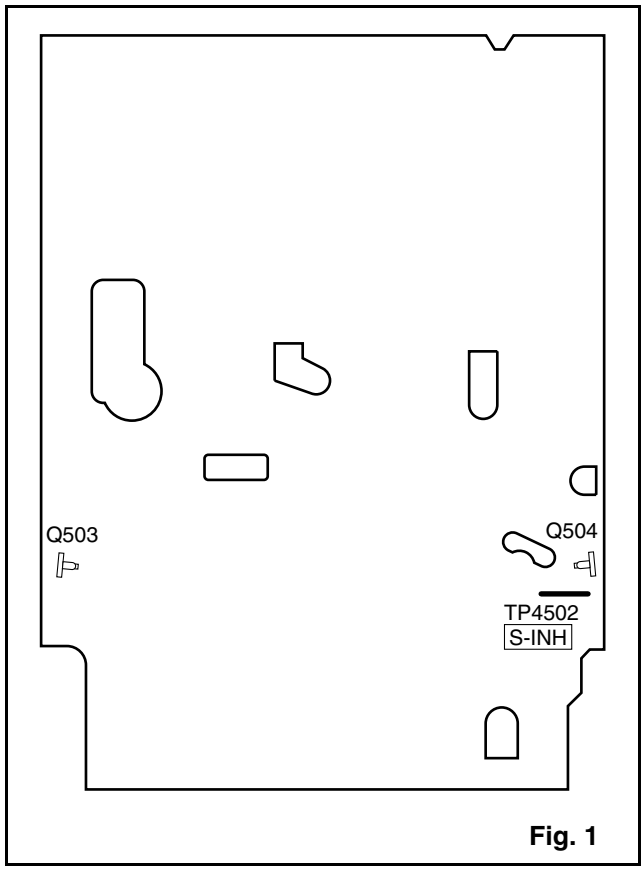


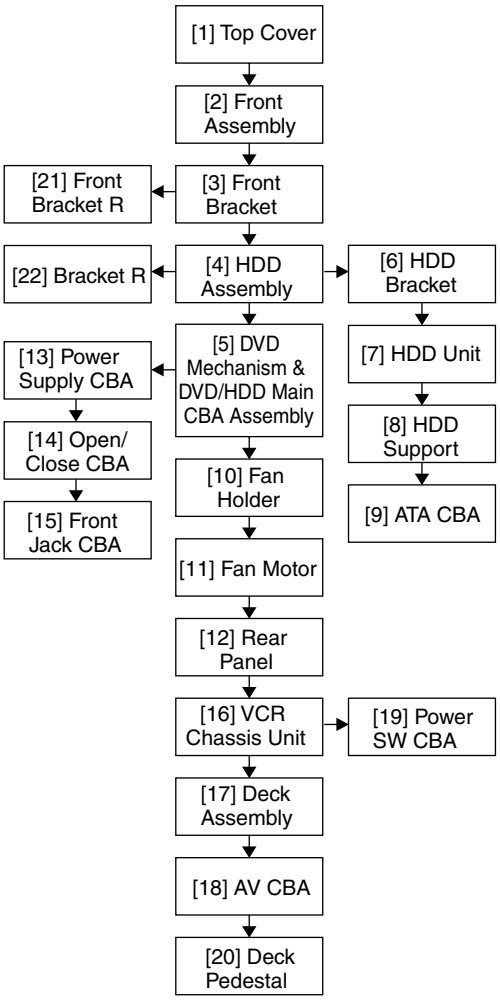
Fig. 1

Note: Because the Tape End Sensors are inactive, do not run a tape all the way to the start or the end of the tape to avoid tape damage.

CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route, and dress the cables as they were originally.



2. Disassembly Method

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	Note
[1]	Top Cover	D1	7(S-1)	---
[2]	Front Assembly	D2	(S-2), *5(L-1), *3(L-2)	1 1-1 1-2
[3]	Front Bracket	D2	2(S-3), 3(S-3B), Front Support	---
[4]	HDD Assembly	D3	3(S-4), *CN201, *CN2203	---
[5]	DVD Mechanism & DVD/ HDD Main CBA Assembly	D3	2(S-5), 2(S-6), *CN2201, *CN4001, Wiresheet	2
[6]	HDD Bracket	D4	4(S-7)	---
[7]	HDD Unit	D4	4(S-8), HDD Rubber	3
[8]	HDD Support	D4	----------	---
[9]	ATA CBA	D4	*CN3001, *CN3002	---
[10]	Fan Holder	D5	2(S-9)	---
[11]	Fan Motor	D5	*CN2204	---
[12]	Rear Panel	D5	5(S-10), 2(S-11)	---
[13]	Power Supply CBA	D6	*CN2202, 2(S-12)	---
[14]	Open/ Close CBA	D6	(S-13), Desolder	---
[15]	Front Jack CBA	D6	*CN2501, 2(S-14)	---
[16]	VCR Chassis Unit	D7	5(S-15), 4(S-16), (S-17)	---
[17]	Deck Assembly	D8	(S-18), (S-19) Desolder	4 5
[18]	AV CBA	D8	----------	---
[19]	Power SW CBA	D8	Desolder	---
[20]	Deck Pedestal	D9	8(S-20)	---
[21]	Front Bracket R	D9	(S-21)	---
[22]	Bracket R	D9	2(S-22)	---
↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)

Note:

(1): Identification (location) No. of parts in the figures

(2): Name of the part

(3): Figure Number for reference

(4): Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P=Spring, L=Locking Tab, S=Screw, CN=Connector
*=Unhook, Unlock, Release, Unplug, or Desolder
e.g. 6(S-1) = six Screws (S-1),
5(L-1) = five Locking Tabs (L-1)

(5): Refer to “Reference Notes.”

Reference Notes

1. Locking Tabs (L-1) and (L-2) are fragile. Be careful not to break them.
   1-1. Remove Screw (S-2).
   1-2. Release five Locking Tabs (L-1).
   1-3. Release three Locking Tabs (L-2) and remove the Front Assembly.
2. Do not replace the DVD Mechanism or the DVD/HDD Main CBA Assembly separately, when replacing the DVD Mechanism & DVD/HDD Main CBA Assembly. Order the new DVD Mechanism & DVD/HDD Main CBA Assembly.
   3-1. Whenever you have replaced the HDD unit, initialize the HDD unit. To initialize the HDD unit, perform the following.To put the DVD/VCR with HDD recorder into the HDD mode, press the [HDD] button on the remote control unit.
   3-2. To put the DVD/VCR with HDD recorder into the self-check mode, after pressing [VARIABLE SKIP] button, press the [3], [6], and [9] buttons on the remote control in that order within three seconds.
   3-3. Press [ENTER] button. The DVD/VCR with HDD recorder is initialized and the power is turned off automatically after two seconds.
3. When reassembling, solder wire jumpers as shown in Fig. D8.
4. Before installing the Deck Assembly, be sure to place the pin of LD-SW on the AV CBA as shown in Fig. D8. Then, install the Deck Assembly while aligning the hole of Cam Gear with the pin of LD-SW, the shaft of Cam Gear with the hole of LD-SW as shown in Fig. D8.

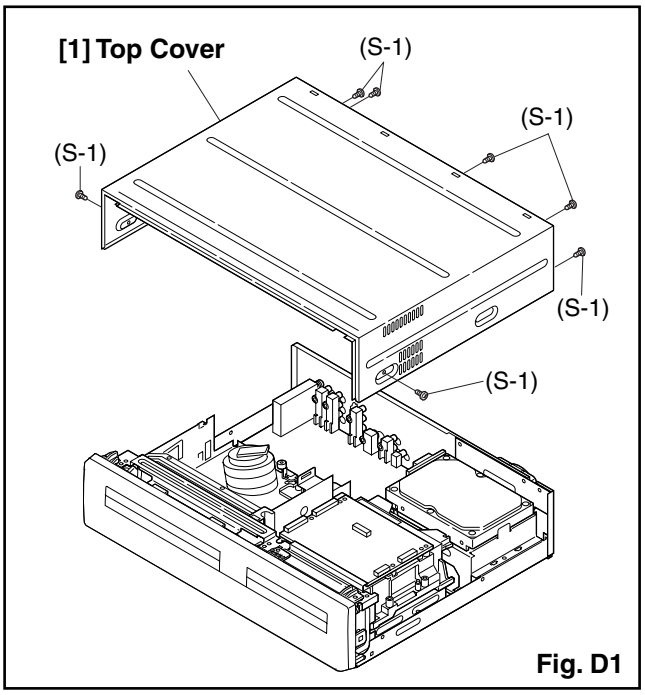


Fig. D1

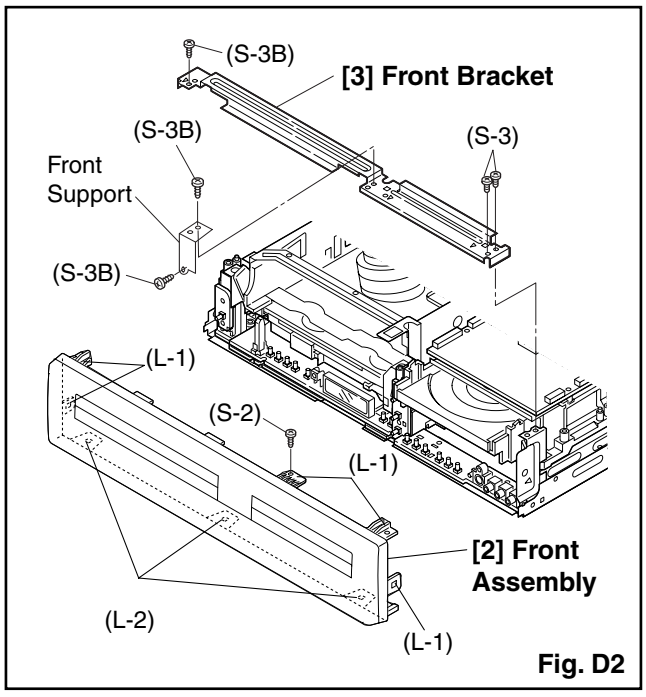


Fig. D2

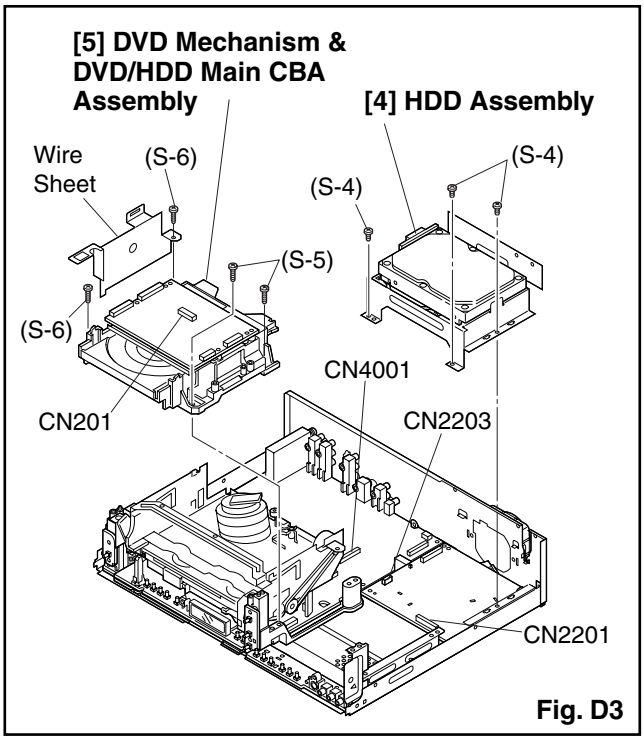


Fig. D3

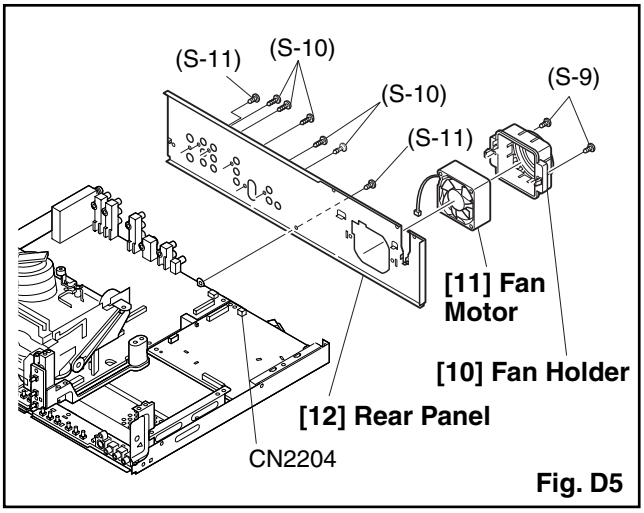


Fig. D5

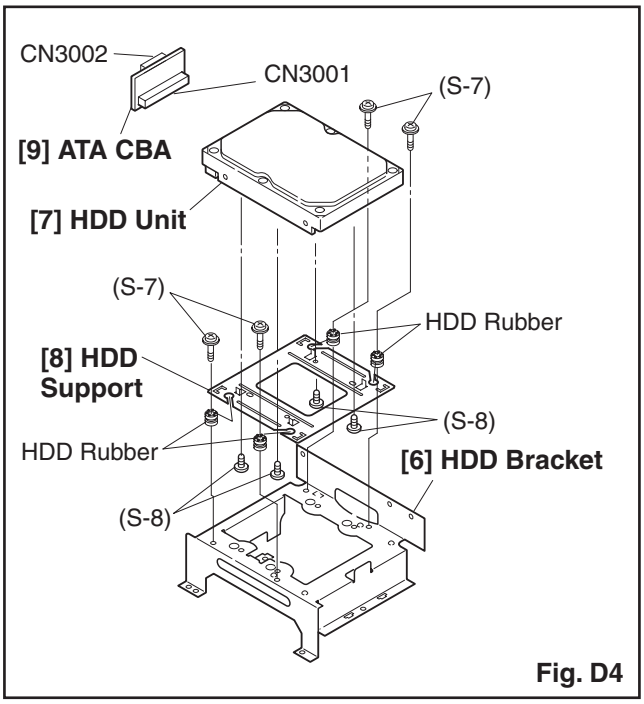


Fig. D4

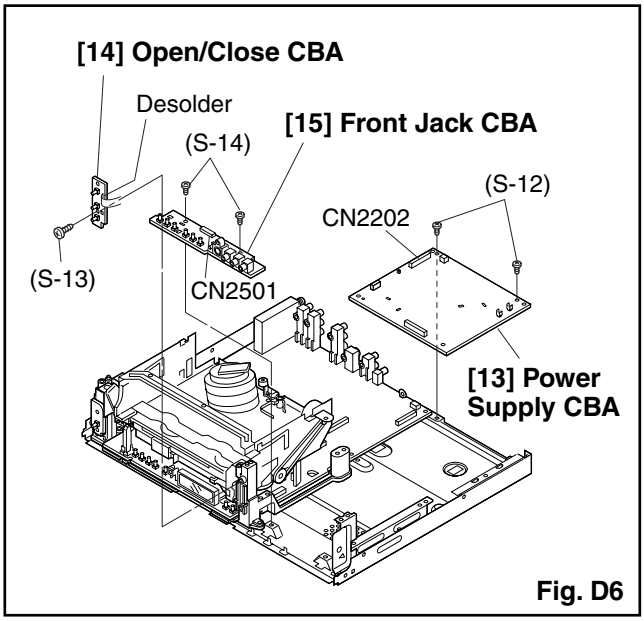


Fig. D6

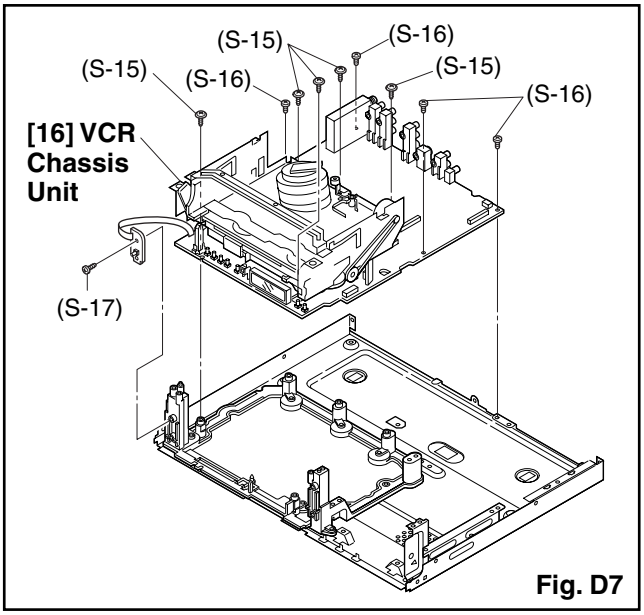
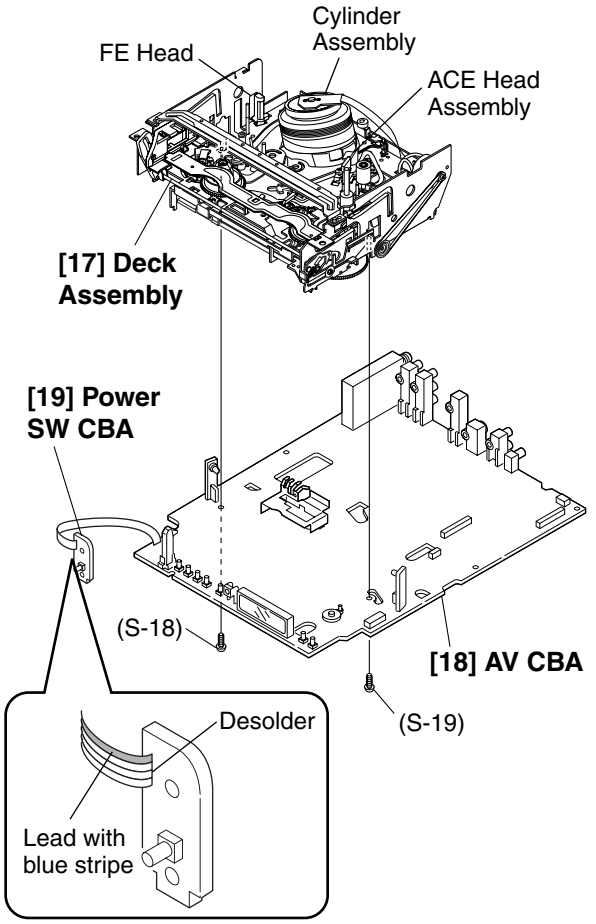
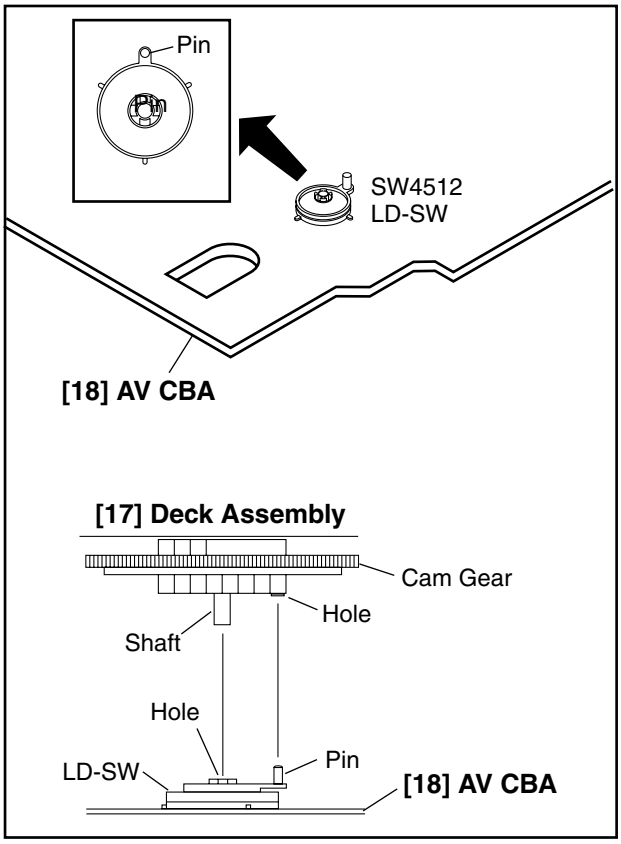
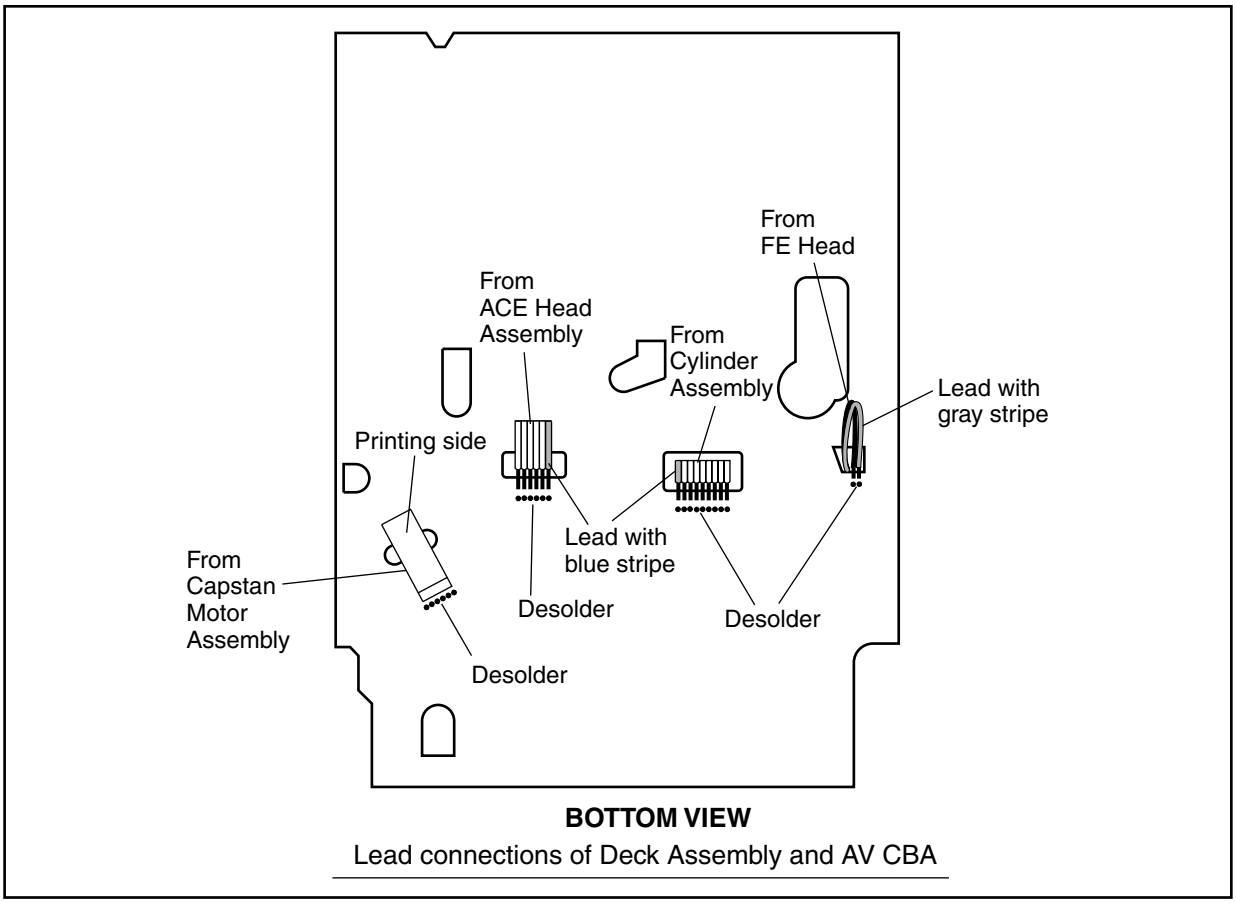


Fig. D7







BOTTOM VIEW

Lead connections of Deck Assembly and AV CBA

Fig. D8

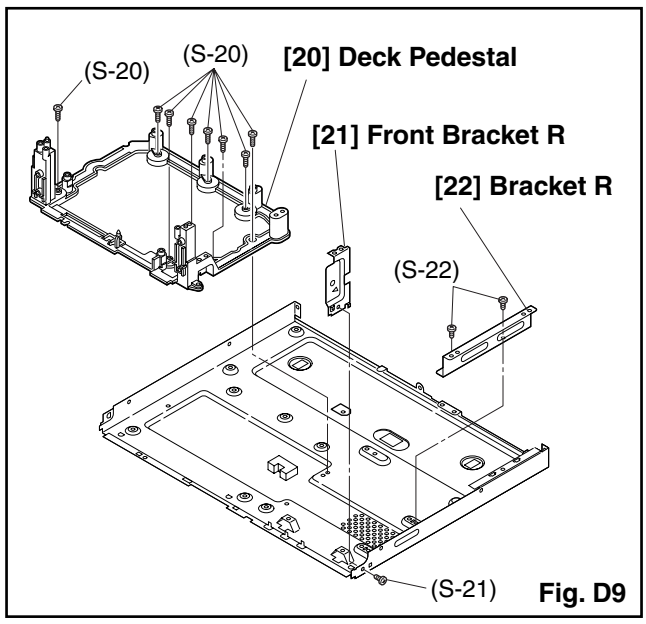


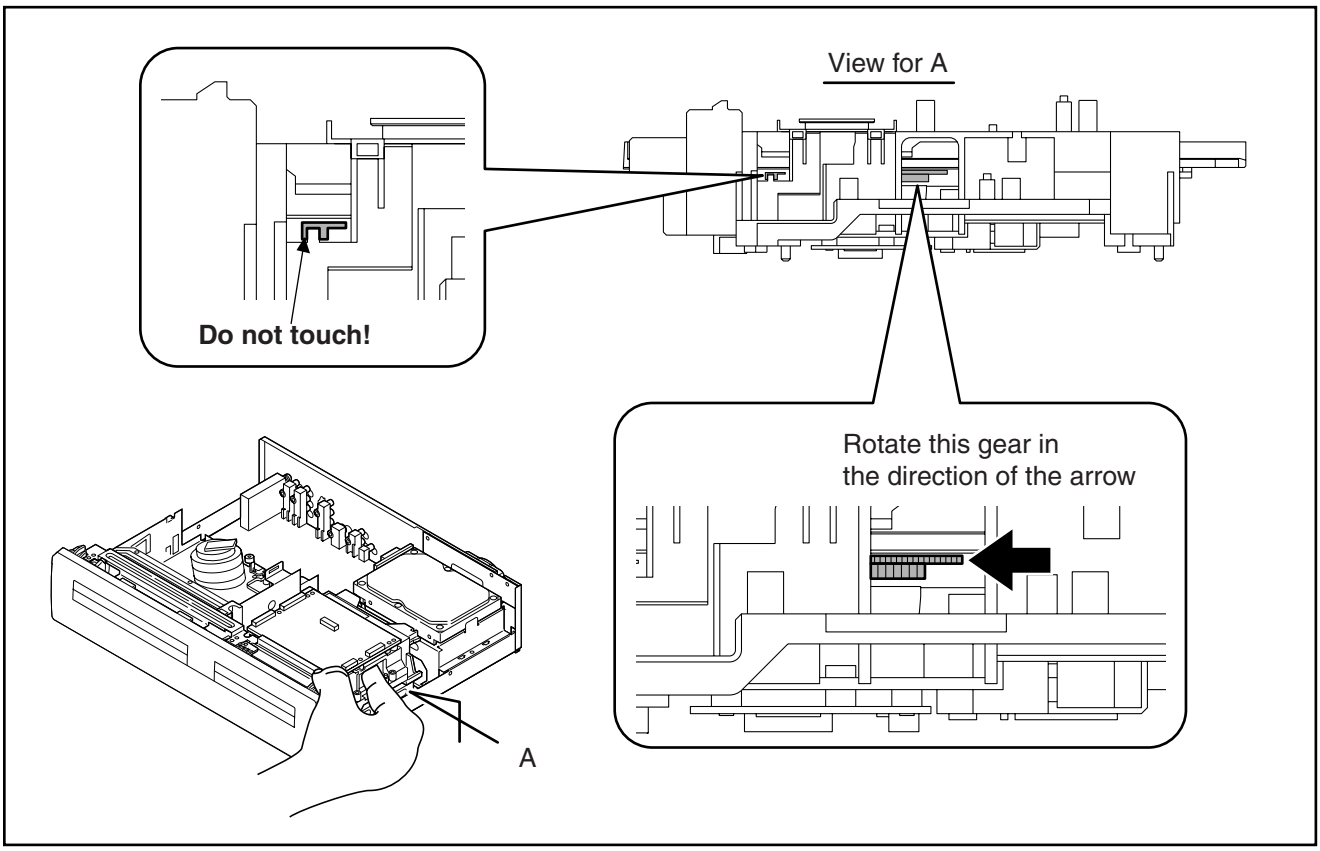
Fig. D9

3. How to Eject Manually

< Method 1 >

Note: When servicing, do not touch white resin part as shown below.
When rotating the gear, be careful not to damage the gear.

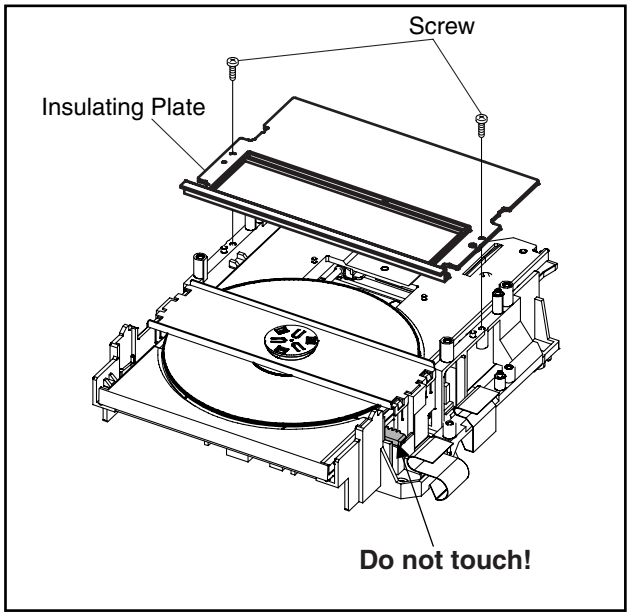
1. Remove the Top Cover.
2. Rotate the gear in the direction of the arrow manually as shown below.



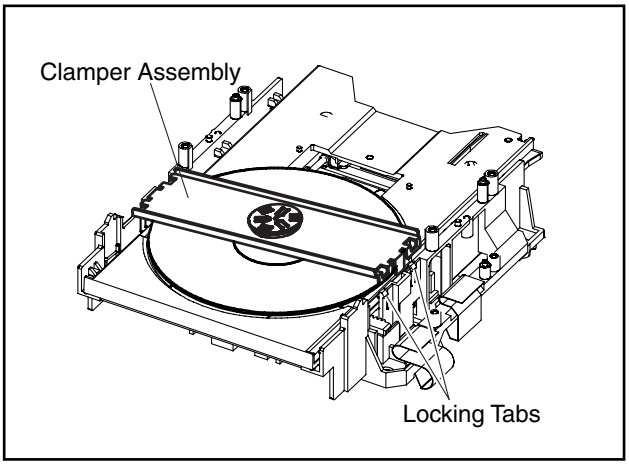
< Method 2 >

Note: When servicing, do not touch white resin part as shown below.

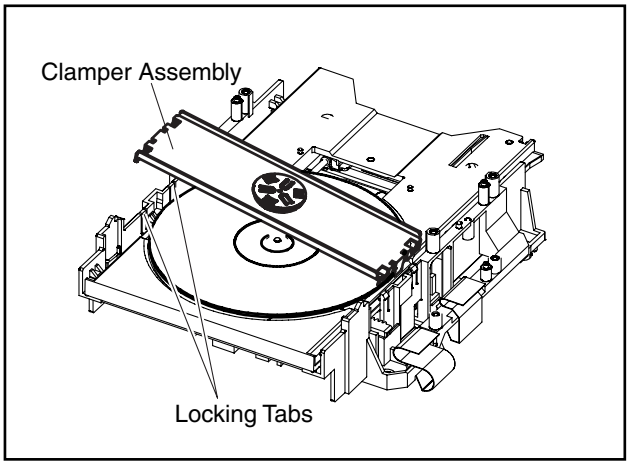
1. Remove the Top Cover, the Front Assembly and the DVD Mechanism & DVD/HDD Main CBA Assembly. Then, remove the DVD Mechanism Unit.
2. Remove two screws, and remove the Insulating Plate.



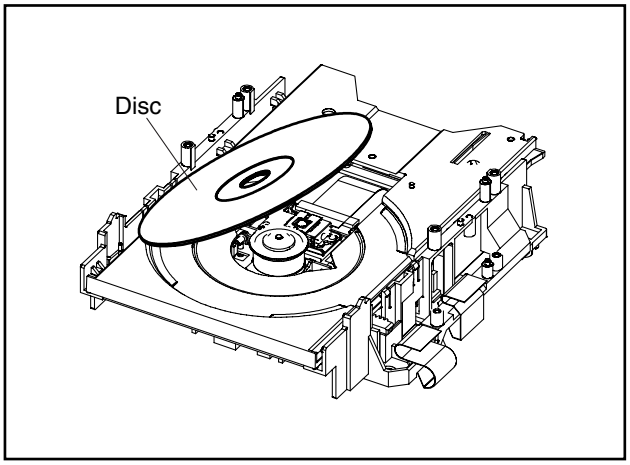
3. Release two Locking Tabs, and lift up one side of the Clamper Assembly.



4. Release the other side of two Locking Tabs, and remove the Clamper Assembly.



5. Remove the disc.



6. Assemble the DVD Mechanism and DVD/HDD Main CBA.
   Note: The combination of the DVD Mechanism and the DVD/HDD Main CBA cannot be changed. When assembling the DVD/HDD Main CBA on the DVD Mechanism, use the DVD/HDD Main CBA that disassembled on the item 1. The other DVD/HDD Main CBA cannot be used.

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note: "CBA" is abbreviation for "Circuit Board Assembly."

NOTE:

1. Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to do these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.
2. To perform these alignment / confirmation procedures, make sure that the tracking control is set in the center position: Press either [CHANNEL ▼] or [CHANNEL ▲] button on the front panel first, then the [VCR PLAY] button on the front panel.

Test Equipment Required

1. Oscilloscope: Dual-trace with 10:1 probe,
   V-Range: 0.001~50 V/Div.,
   F-Range: DC~AC-20 MHz
2. Alignment Tape (FL8A)

Head Switching Position Adjustment

Purpose: To determine the Head Switching position during playback.

Symptom of Misadjustment: May cause Head Switching noise or vertical jitter in the picture.

Test point	Adj. Point	Mode	Input
JP4017(V-OUT) TP4302(RF-SW) GND	VR4501 (Switching Point)	PLAY (SP)	-----
Tape	**Measurement Equipment**	**Spec.**	
FL8A	Oscilloscope	6.5H ± 1H (412.7µs±63.5µs)	

Connections of Measurement Equipment

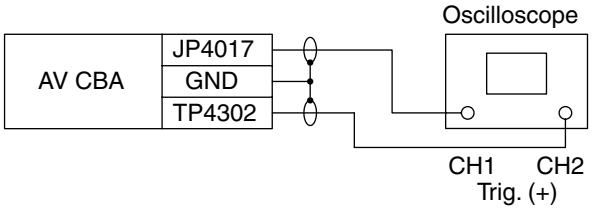
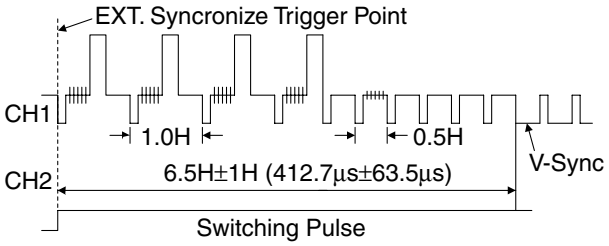


Figure 1



Note: JP4017 (V-OUT), TP4302 (RF-SW), VR4501 (Switching Point) --- AV CBA

Reference Notes:

Playback the Alignment tape and adjust VR4501 so that the V-sync front edge of the CH1 video output waveform is at the 6.5H ± 1H (412.7 µs ± 63.5 µs) delayed position from the rising edge of the CH2 head switching pulse waveform.

HOW TO SELF-CHECK AND INITIALIZE THE DVD/VCR WITH HDD

1. Turn on the DVD/VCR with HDD recorder.
2. To put the DVD/VCR with HDD recorder into the HDD mode, press [HDD] on the remote control unit.
3. To put the DVD/VCR with HDD recorder into the self-check mode, after pressing [VARIABLE SKIP] button, press the [3], [6], and [9] buttons on the remote control in that order within three seconds.
   Fig. a appears on the screen and all LEDs light.

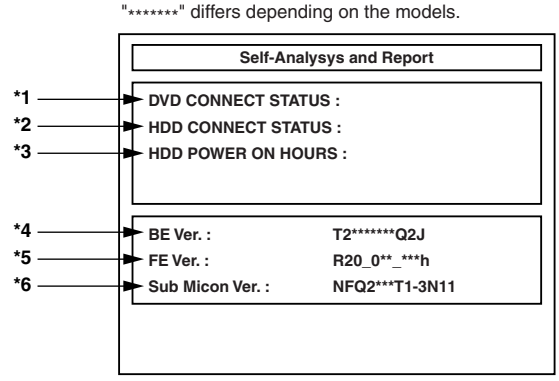


Fig. a: Self-Check Mode Screen

Table 1: Description of Fig. a

INDICATION	DESCRIPTION
DVD CONNECT STATUS (*1)	Connecting Condition of DVD(F/E)
HDD CONNECT STATUS (*2)	Connecting Condition of HDD
HDD POWER ON HOURS (*3)	Value of HDD power on hours obtained from S.M.A.R.T. command. (If not obtainable, value of HDD power on hours is “0”.) Value in parentheses is the factory setting value. (If no setting, the value is “0”.)
BE Ver. (*4)	B/E version
FE Ver. (*5)	F/E version
Sub Micon Ver. (*6)	Sub micro controller version

4. Upon the self-check completion, Fig. b appears on the screen.

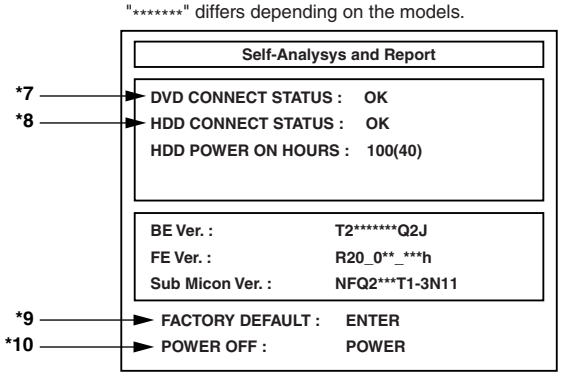


Fig. b: Screen of Finishing Self-Check Mode

Table 2: Indication of DVD self-check (*7)

INDICATION	DESCRIPTION
OK	Connection of DVD is normal.
NOT FOUND	DVD drive cannot be found.
CABLE ERROR	FFC cable (connecting to CN401) between the DVD drive and the DVD/HDD Main CBA is not connected correctly.

Table 3: Indication of HDD self-check (*8)

INDICATION	DESCRIPTION
OK	Connection of HDD is normal.
NOT FOUND	HDD drive cannot be found.
CABLE ERROR	FFC cable between the ATA CBA and the HDD drive is not connected correctly.

Table 4: Available button in self-check mode

BUTTON	DESCRIPTION
ENTER (*9)	Initialize (only when the self-check mode is complete)
POWER (*10)	Turn the power off (when the self-check mode is complete)
OTHER	Not available

5. When the self-check mode is complete, press [POWER] button to turn the power off.
   When initializing the DVD/VCR with HDD recorder, press [ENTER] button. Fig. c appears on the screen. After two seconds, the power is turned off automatically.

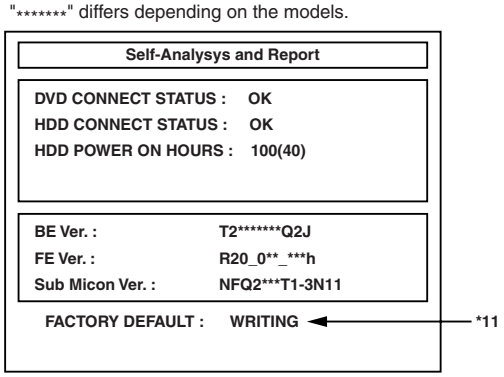

"*******" differs depending on the models.
Self-Analysys and Report
DVD CONNECT STATUS : OK
HDD CONNECT STATUS : OK
HDD POWER ON HOURS : 100(40)
BE Ver. : T2*******Q2J
FE Ver. : R20_0**_***h
Sub Micon Ver. : NFQ2***T1-3N11
FACTORY DEFAULT : WRITING
*11

Fig. c: Initialize Mode Screen

Table 5: Description of *11 in Fig. c

INDICATION	DESCRIPTION
ENTER	Initialization preparation is complete.
WRITING	Initializing
OK	Initializing is finished normally.
NG	Initializing is not finished normally.

NOTE: When initializing, “Current Clock”, “Setup Changing Item”, “Channel Setup”, “Area Setup”, “Program” and “HDD Contents” are initialized.

FIRMWARE RENEWAL MODE

1. Update Contents

	Item	Status
1	B/E	Update B/E FIRMWARE
2	F/E	Update F/E FIRMWARE

2. Update

1. Turn the power on and remove the disc in the tray.
2. To switch the DVD/VCR with HDD recorder into the HDD mode, press [HDD] on the remote control unit.
3. To put the DVD/VCR with HDD recorder into version up mode, press [VARIABLE SKIP] and [6], [5], [4] buttons on the remote control unit in that order within 3 seconds. The tray will open automatically.
   Fig. a appears on the TV screen and Fig. b appears on the VFD.

*FIRMWARE version will differ depending on the model. Fig. a is an example.

Fig. a: Update Mode TV Screen

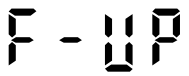


Fig. b: VFD Display in Update Mode

4. Load the update disc.
   The TV screen will display Fig. c.
   - If the update disc contains only a single file, the update will initiate automatically when the disc is inserted.

*FIRMWARE version will differ depending on the model. Fig. c is an example.

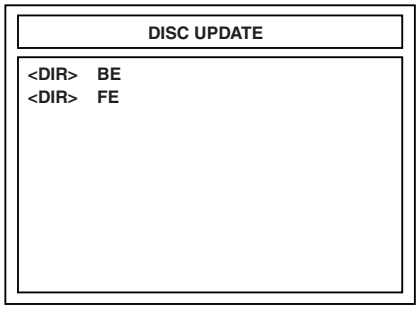


Fig. c: Update Disc TV Screen

Effective FIRMWARE update files will have the file extensions shown below.

File extension	Status
BIN	B/E FIRMWARE file
MOT	F/E FIRMWARE file

5. Select the desired FIRMWARE to be updated with the arrow button and press the [ENTER] button. FIRMWARE will automatically select the appropriate F/E or B/E version.
   Fig. d appears on the TV screen and Fig. e appears on the VFD, and the update will start.

*FIRMWARE version will differ depending on the model. Fig. d is an example.

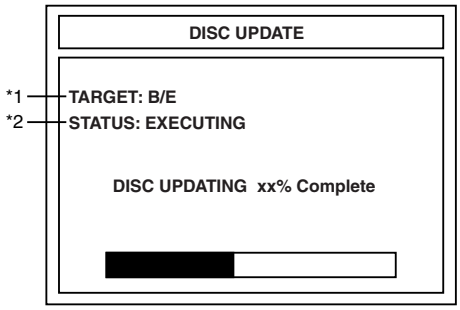


Fig. d: TV Display during update

The status displayed in *1 is as shown below.

Display	Status
B/E	FIRMWARE B/E
F/E	FIRMWARE F/E
UNKNOWN	Not FIRMWARE B/E or F/E

The status displayed in *2 is as shown below.

Display	Status
EXECUTING	Loading F/W from Update Disc or writing to Flash memory
OK	Update successful
ERROR	Error during Flash memory writing
FILE ERROR	Check SAM error in F/W file
READ ERROR	Error during F/W file reading

Fig. e: VFD Display during update

Re: the VFD display shown in Fig. e.

When the TV screen displays "Firmware Updating... XX% Complete," the VFD will indicate "XX"%.

6. When completing update, the tray will open automatically.
   The TV screen will display Fig. f.

*FIRMWARE version will differ depending on the model. Fig. f is an example.

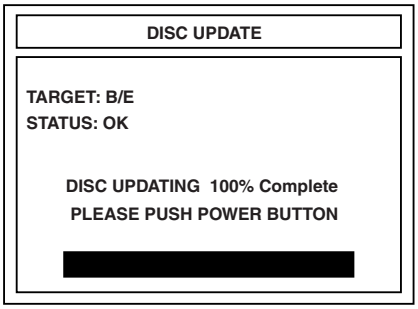


Fig. f: TV Display when completing update

If the update is completed correctly, the VFD will indicate Fig. g.

Fig. g: VFD Display when completing update

Fig. h VFD Display when completing update with error

In this case, all button operations will be invalid except [POWER] button.

7. Press [POWER] button to turn the power off and press [POWER] button again to turn the power on and finish updating.

3. How to Verify the Firmware Version

1. Turn the power on and remove the disc in the tray.
2. To switch the DVD/VCR with HDD recorder into the HDD mode, press [HDD] on the remote control unit.
3. Press [VARIABLE SKIP] and [1], [2], [3] buttons on the remote control unit in that order within 3 seconds. The Firmware version appears on the TV screen.
4. Press [POWER] button to reset the unit.

FUNCTION INDICATOR SYMBOLS

< VCR Section >

Note:

If a mechanical malfunction occurs, the power is turned off. The following symbols will appear on the display.

Status	Display
When reel or capstan mechanism is not functioning correctly	"W" blinks.
When tape loading mechanism is not functioning correctly	
When cassette loading mechanism is not functioning correctly	
When the drum is not working properly	
P-ON+5V Power safety detection	
Fan does not rotate over 30 seconds.	"W" light and "R" blinks.

When the power comes on again after that by pressing [POWER] button, an error message is displayed on the TV screen as follows.

When reel or capstan mechanism is not functioning correctly

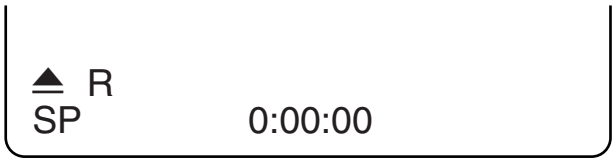


Fig. 1

When tape loading mechanism is not functioning correctly

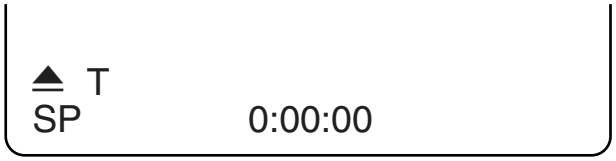


Fig. 2

When cassette loading mechanism is not functioning correctly

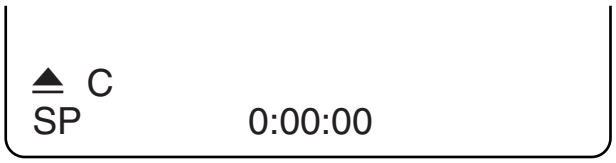


Fig. 3

When the drum is not working properly

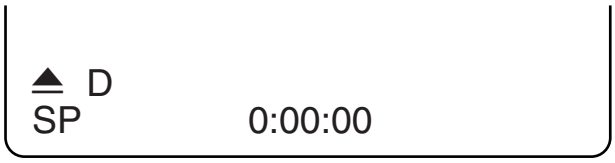


Fig. 4

P-ON+5V Power safety detection

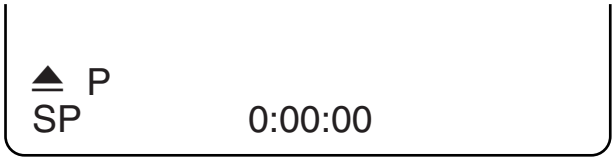
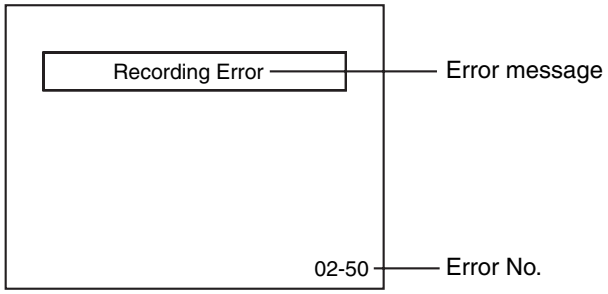


Fig. 5

< DVD/HDD Section >

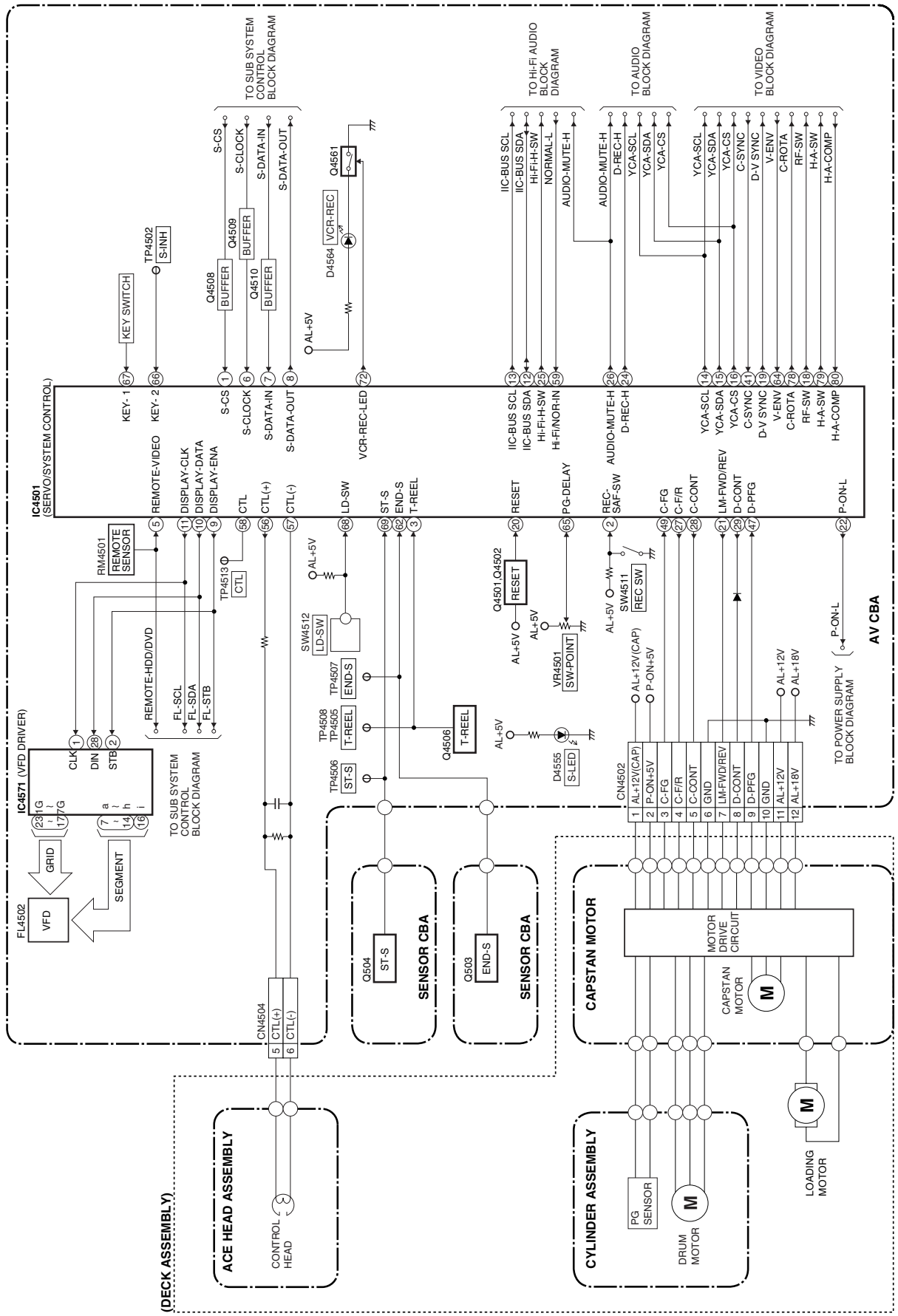
Note: If an error occurs, a message with the error number appears on the screen.



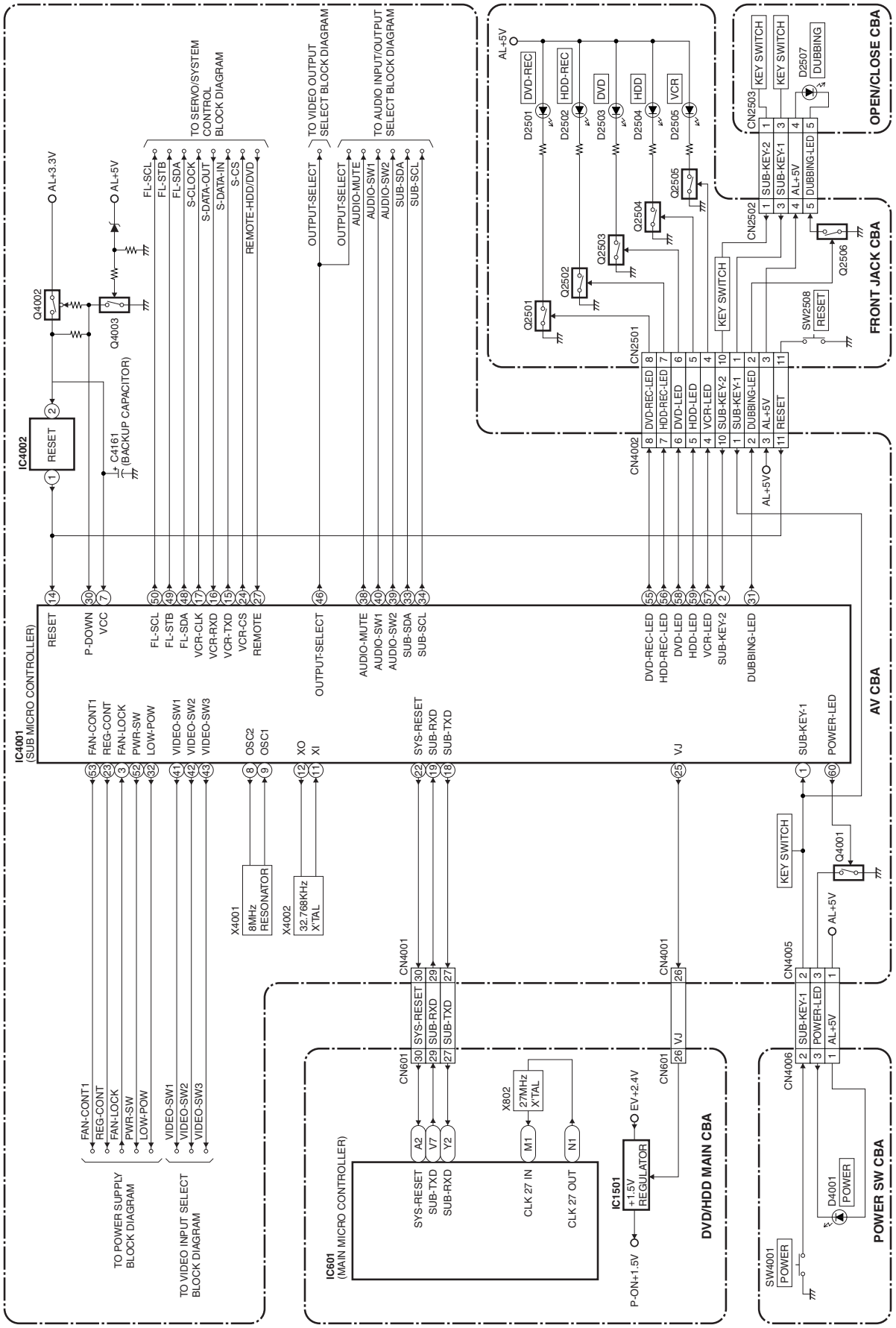
Message	Error No.	Error Description	Error Example
Disc error	04-50	Renewal error at ejecting disc	This code is output when there is a control information writing failure due to tray being open during writing or disc loading.
	04-51	Disc includes still picture	This code is output upon attempt to write data (finalizing disc protect data, etc.) on a disc including a still picture.
Recording error	03-50	Recording error caused by media error	This code is output when recording error caused by media error occurs, e.g.,stopping recording during attempting to record on a scratched disc.
	03-52	Loader error	This code is output when tray open/close error occurs. Also, when the tray open error occurs at F/E and when the recovery fails even if the B/E retries.
	03-53	Poor media	This code is output when a DVD operation error occurs during copying.
	03-54	Control information error and control data error	This code is output when a chip (EMMA) outputs unusual data while recording and the control information writing fails.
	03-55	Writing error (video)	This code is output when video writing fails while copying at high speed.
	03-56	General error	This code is output when a number of errors occur: Ex.1) When Outplay list creation fails. Ex.2) When the system can't take the title information which should be written on the disc. Ex3) When starting to copy, recording is paused and restarted but, after the recording pause, recording start fails.
	03-57	Device error	This code is output when an HDD operation error occurs (HDD recording error), while copying at high speed or constant speed.
	03-60	Unrecordable disc	This code is output when recording is attempted on a non - recordable disc such as a CD or DVD-ROM.
System error	02-50	Erasing error (all titles)	This code is output when an error occurs erasing entire VR playlist, HDD playlist or HDD originals.
	02-51	Disc protection failure	This code is output when protected pre-existing information that should be on a disc is missing (VR disc protection error).
	02-52	Format failure	This code is output when HDD formatting occurs in maintenance mode.
	02-53	Abnormal loader	This code is output when an appropriate DVD drive is not connected.
	02-54	Abnormal HDD mount	This code is output when a [PLAY], [STOP], [REC], [MENU] or [LIST] button is pressed while HDD is not functional.
	02-55	Changing status failure during VCR dubbing	This code is output when, during dubbing from HDD or DVD to VCR, playback cannot be initiated or playback cannot be discontinued.
	02-56	Abnormal VCR mechanism	This code is output when a VCR mechanism abnormality occurs. After the error message is displayed, the power turns off.
	02-57	Fan lock	This code is output when fan locking (over 30 seconds) is detected. After the error message is displayed, the power turns off.
	02-58	F/E hang-up	This code is output when an F/E hang-up event occurs. After the error message is displayed, the power turns off.
	02-59	HDD hang-up	This code is output when HDD hang-up event occurs. After the error message is displayed, the power turns off.

BLOCK DIAGRAMS

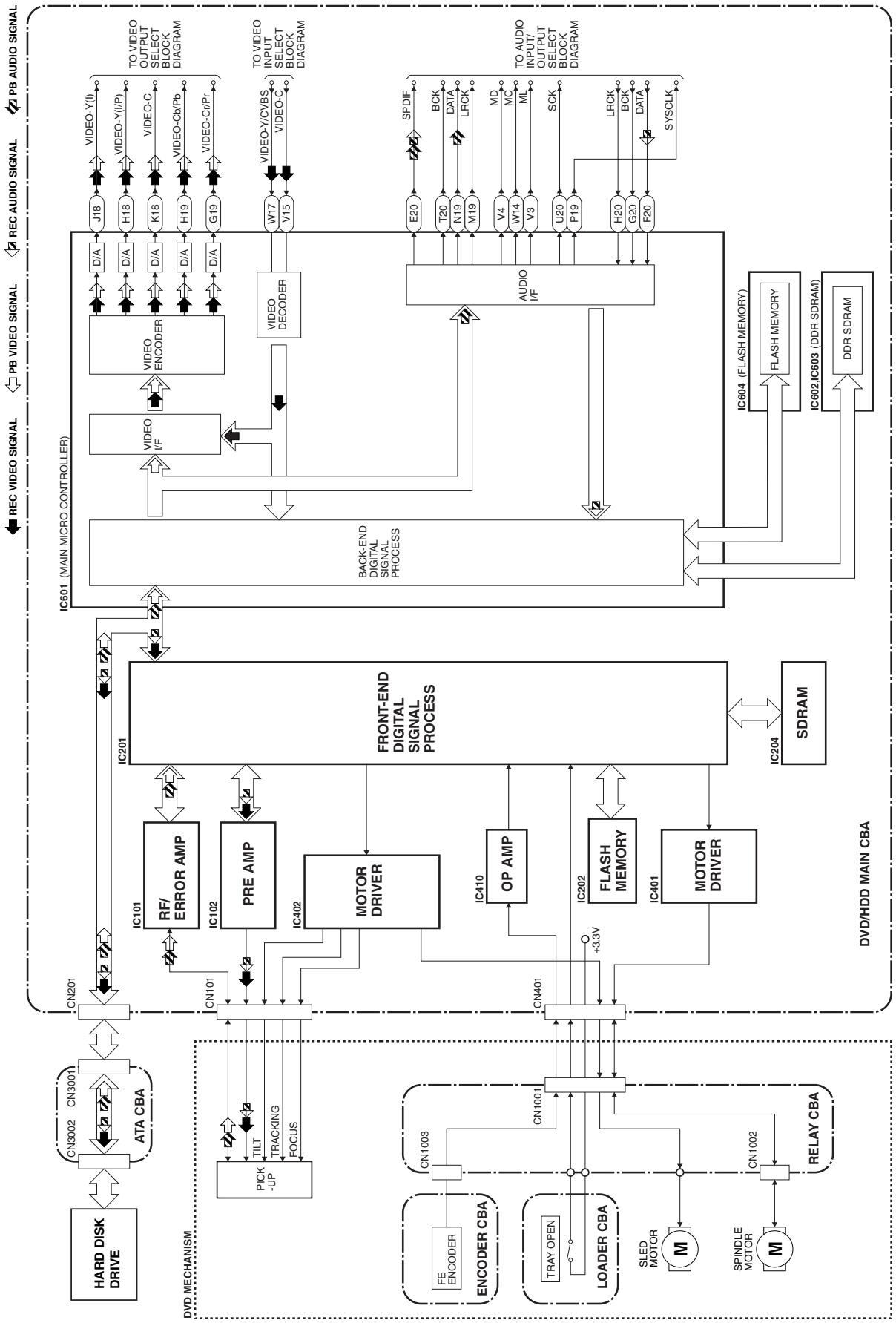
Servo/System Control Block Diagram



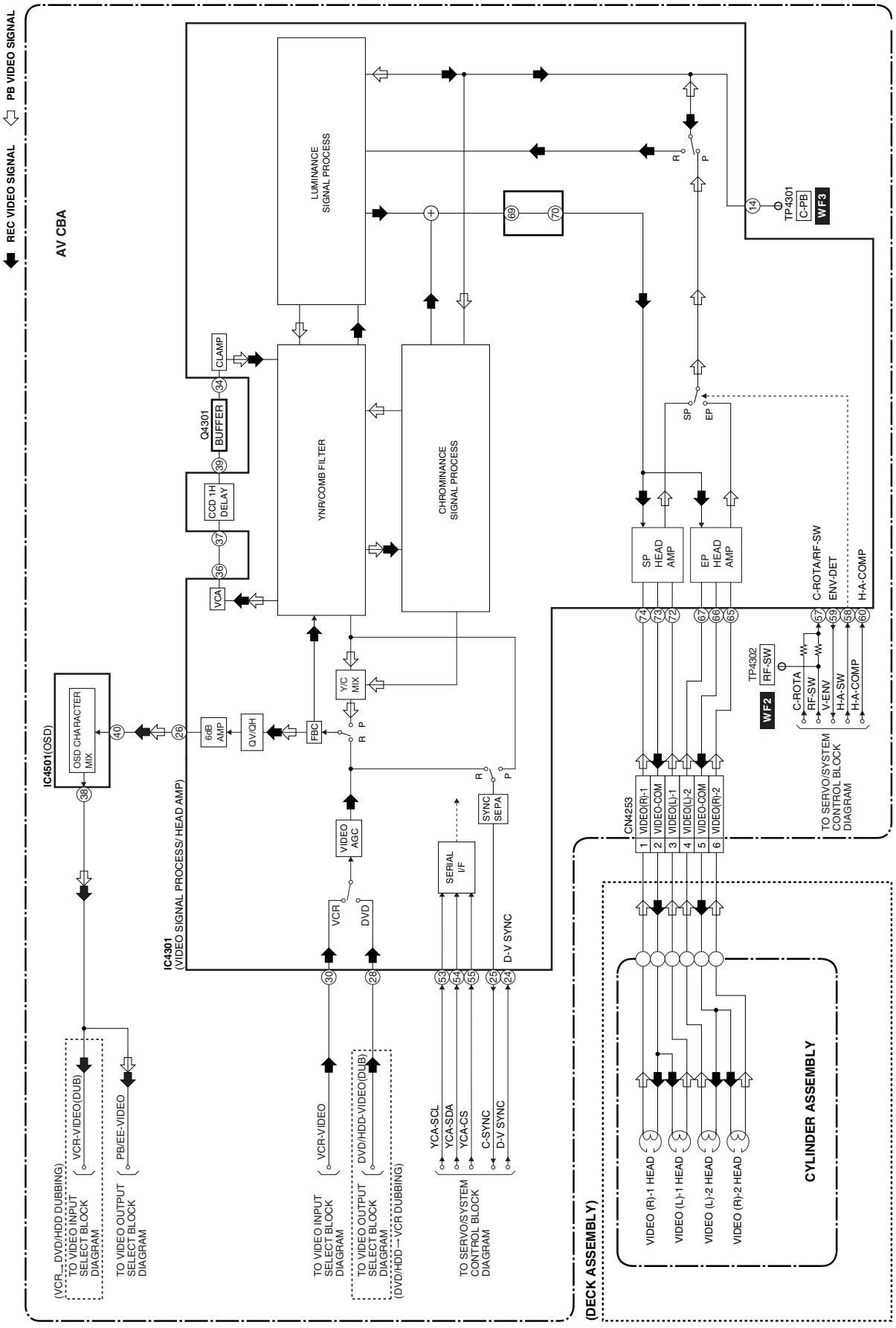
Sub System Control Block Diagram



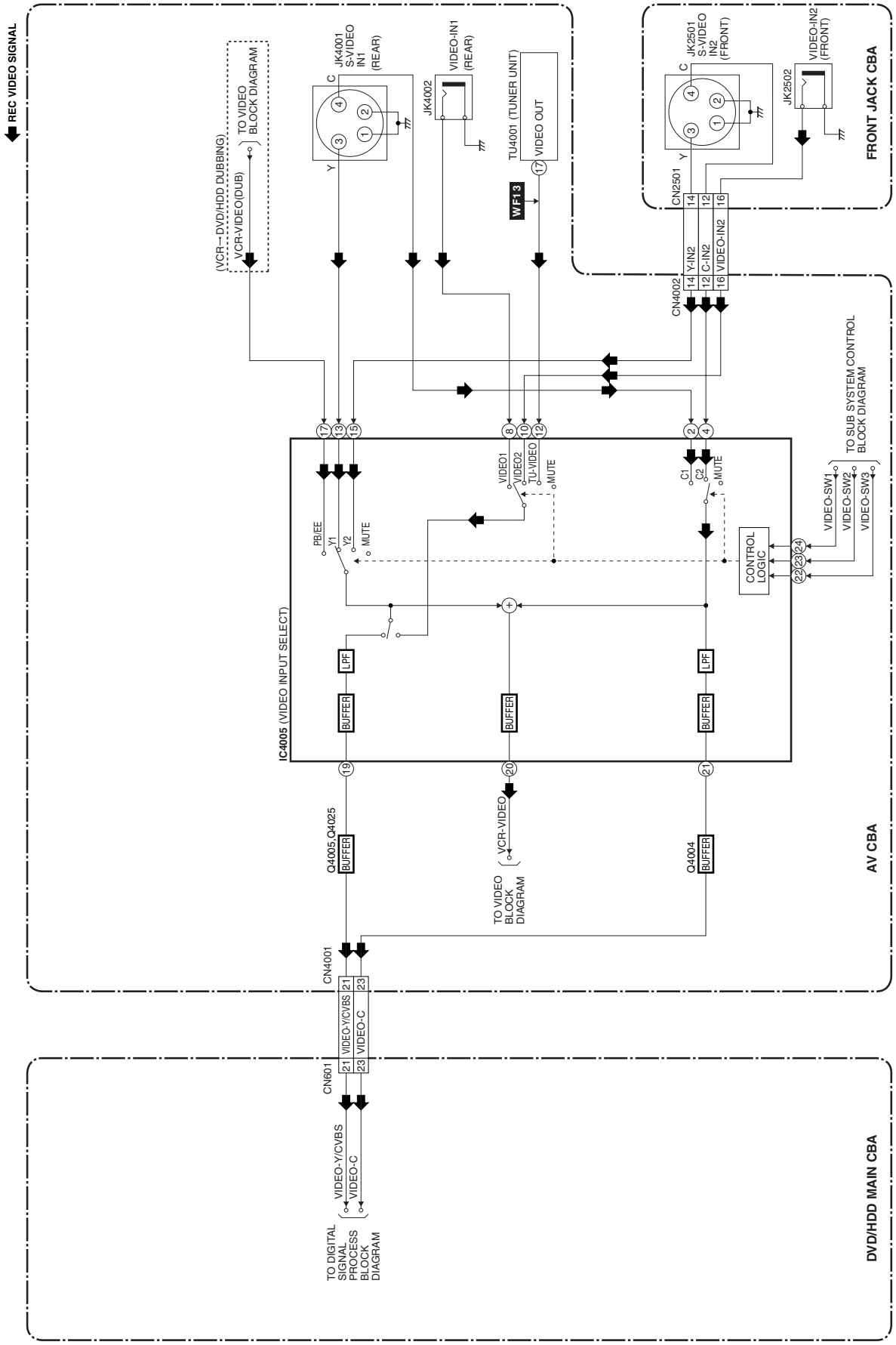
Digital Signal Process Block Diagram



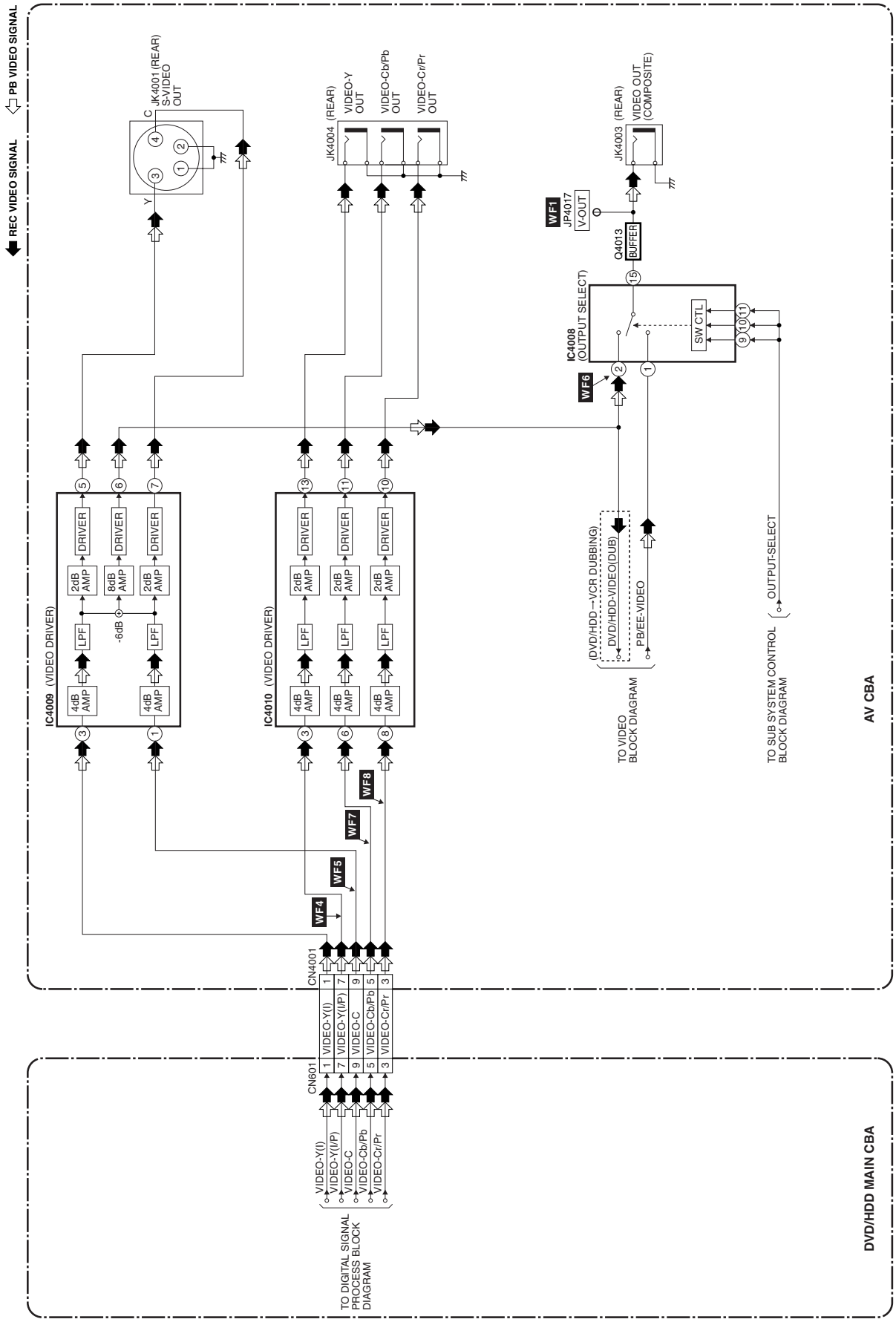
Video Block Diagram



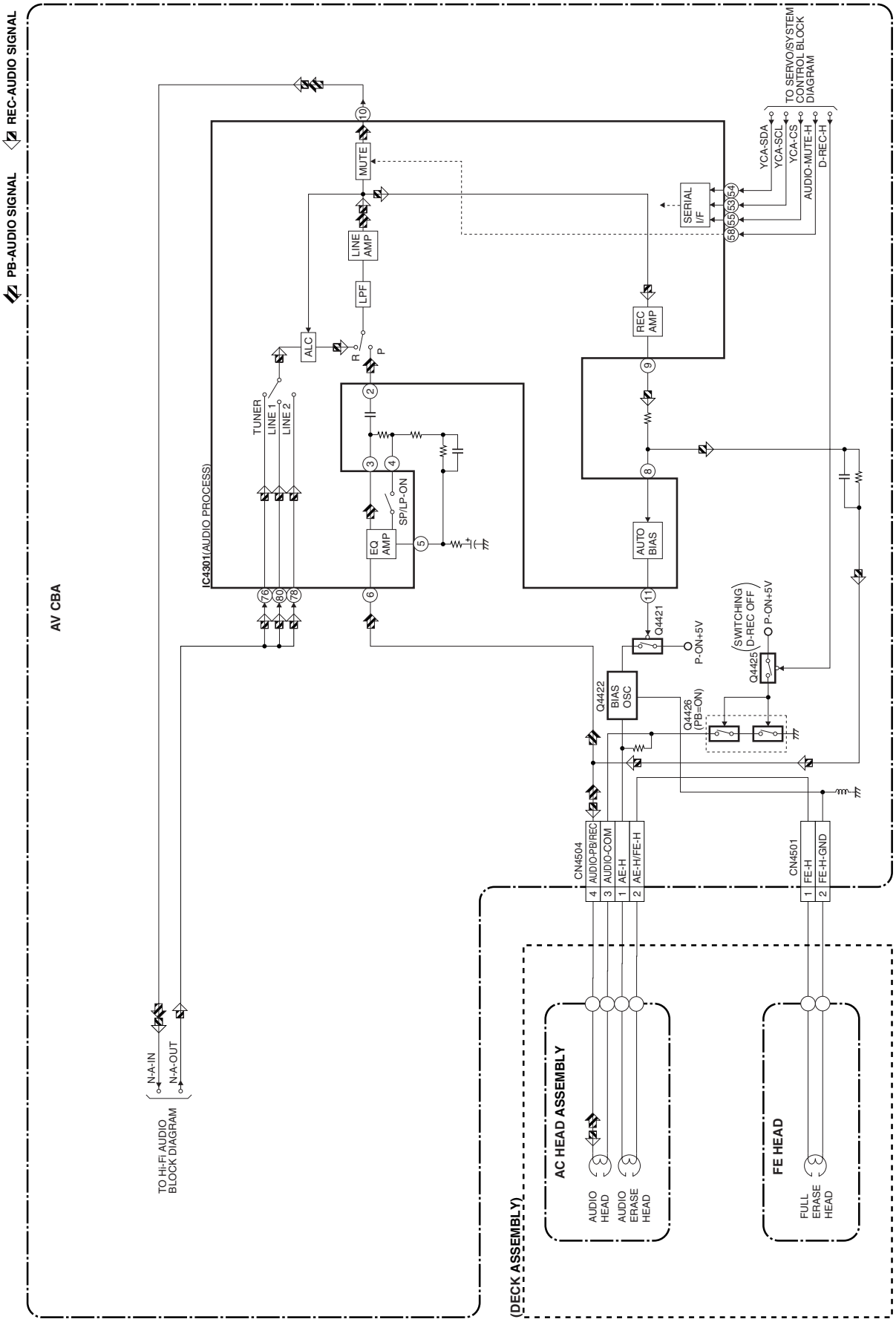
Video Input Select Block Diagram



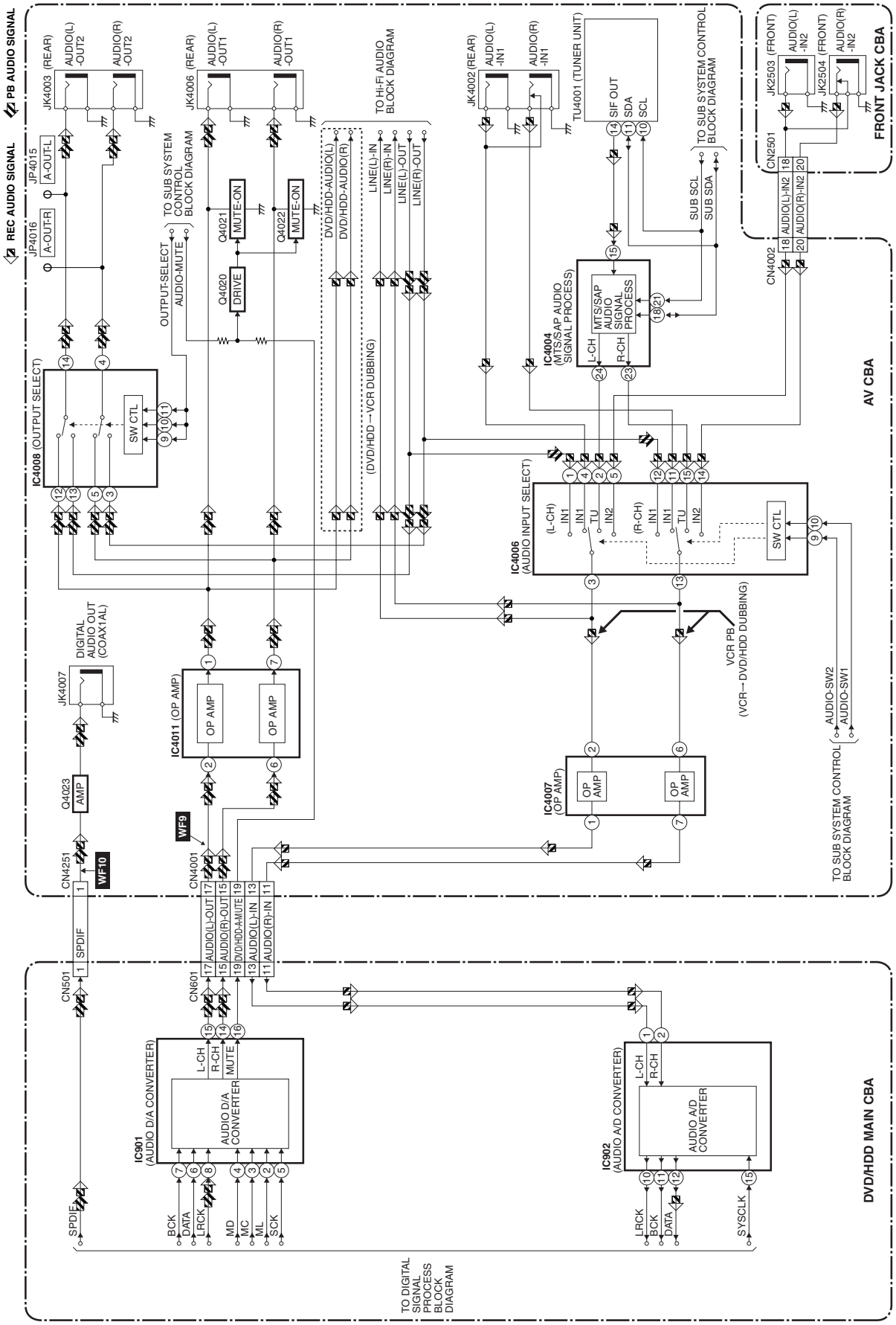
Video Output Select Block Diagram



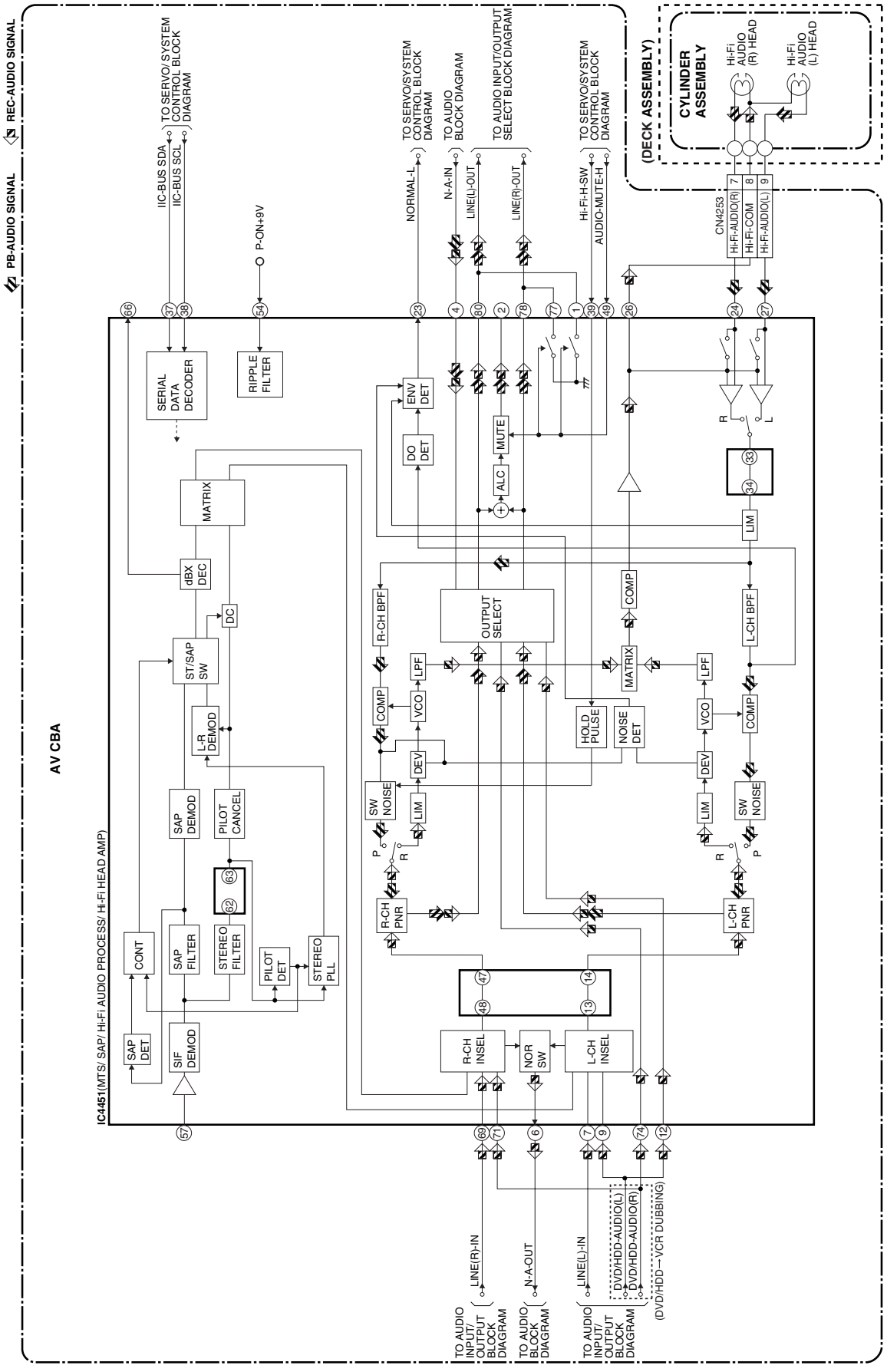
Audio Block Diagram



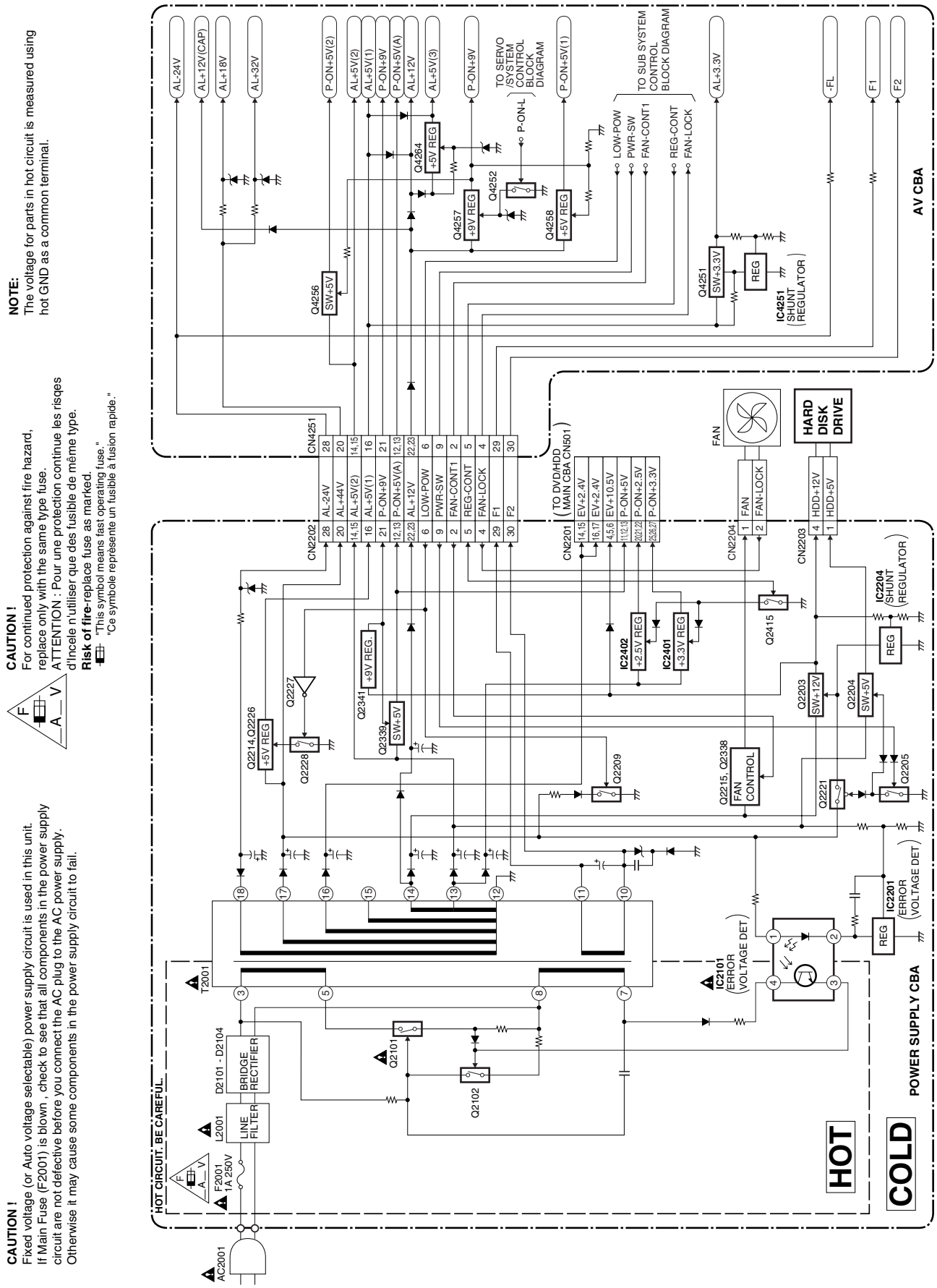
Audio Input/Output Select Block Diagram



Hi-Fi Audio Block Diagram



Power Supply Block Diagram



CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F2001) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

CAUTION !
For continued protection against fire hazard, replace only with the same type fuse.
ATTENTION : Pour une protection continue les risques d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

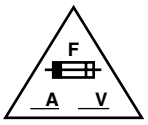
Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark "⚠" in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Notes:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K = 10^3$, $M = 10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P = 10^{-6}$ μF).
5. All voltages are DC voltages unless otherwise specified.

LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. CAUTION:



FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MÊME TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.

This symbol means fast operating fuse.
Ce symbole reprèsente un fusible à fusion rapide.

2. CAUTION:

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F2001) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

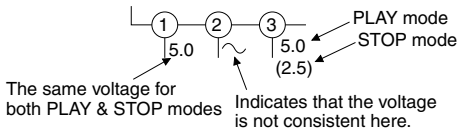
3. Note:

1. Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
2. To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

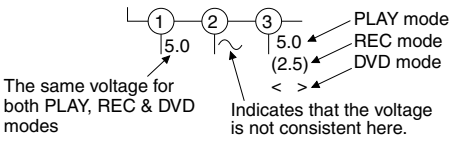
4. Mode: SP/REC

5. Voltage indications for PLAY and REC modes on the schematics are as shown below:

< DVD/HDD Section >



< VCR Section >

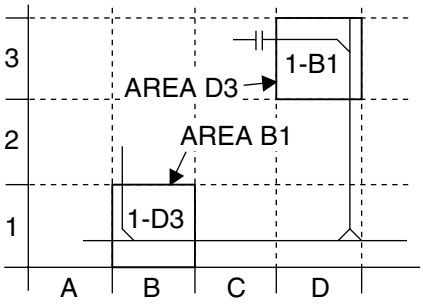


Unit: Volts

6. How to read converged lines

1-D3
- Distinction Area
- Line Number (1 to 3 digits)

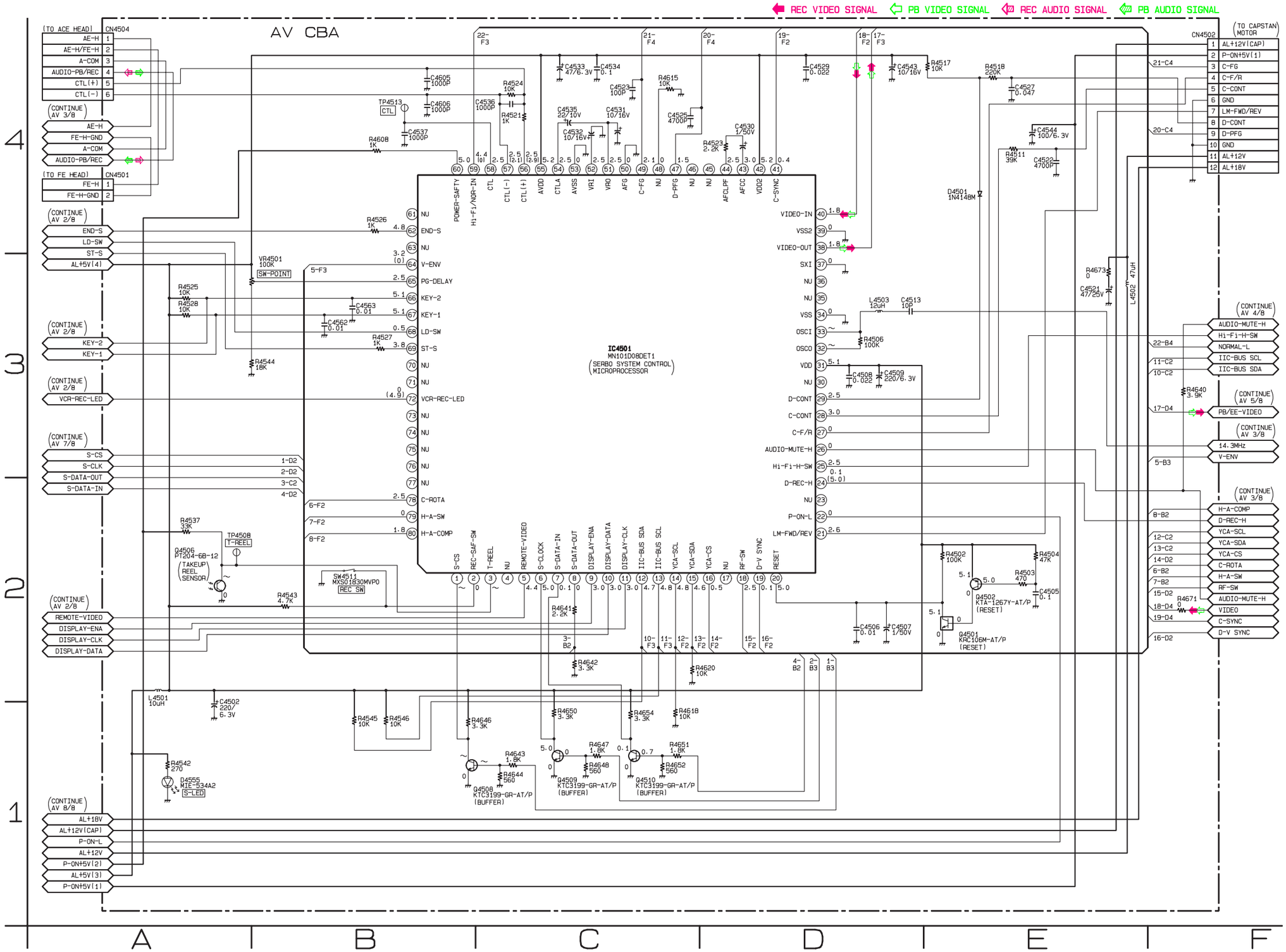
Examples:
1. "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
2. "1-B1" means that line number "1" goes to the line number "1" of the area "B1".



7. Test Point Information

- : Indicates a test point with a jumper wire across a hole in the PCB.
- : Used to indicate a test point with a component lead on foil side.
- : Used to indicate a test point with no test pin.
- : Used to indicate a test point with a test pin.

AV 1/8 Schematic Diagram < VCR Section >



AV 1/8

Ref No.	Position
IC	
IC4501	C-3
TRANSISTORS	
Q4501	E-1
Q4502	E-2
Q4506	A-2
Q4508	C-1
Q4509	C-1
Q4510	C-1
CONNECTORS	
CN4501	A-4
CN4502	F-4
CN4504	A-4
VARIABLE RESISTOR	
VR4501	B-3
TEST POINTS	
TP4508	A-2
TP4513	B-4

E4340SCAV1

AV 2/8 & Sensor Schematic Diagram < VCR Section >

FL4502 MATRIX CHART

	7G	6G	5G	4G	3G	2G	1G
a	a	a	a	a	a	a	CD
b	b	b	b	b	b	b	W
c	c	c	c	c	c	c	R
d	d	d	d	d	d	d	d
e	e	e	e	e	e	e	DVD
f	f	f	f	f	f	f	f
g	g	g	g	g	g	g	HDD
h	h	:	T	:	h	⊂	h
i	PM	TIME SHIFT	◔	P-SCAN	∞	DB	VCR

AV 2/8

Ref No.	Position
IC	
IC4571	J-3
TRANSISTOR	
Q4561	G-1
TEST POINTS	
TP4502	H-4
TP4506	K-1
TP4507	K-1

AV CBA

FL4502 7-BT-306NS (VFD)

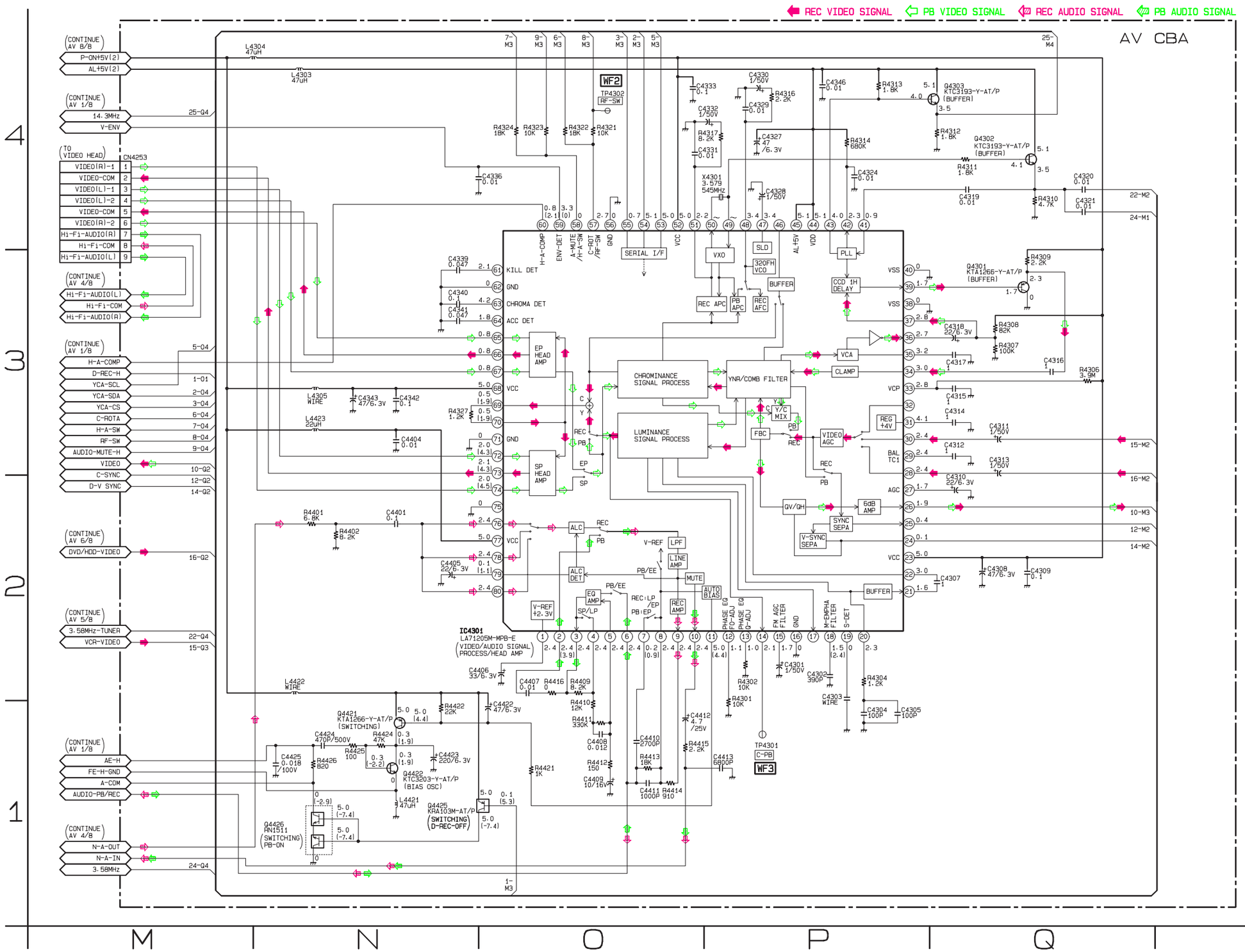
IC4571
PT6313-S-TP(L)
(VFD DRIVER)

SENSOR CBA

SENSOR CBA

UNLESS OTHERWISE SPECIFIED, SWITCHES ARE KSMC614B.

AV 3/8 Schematic Diagram < VCR Section >



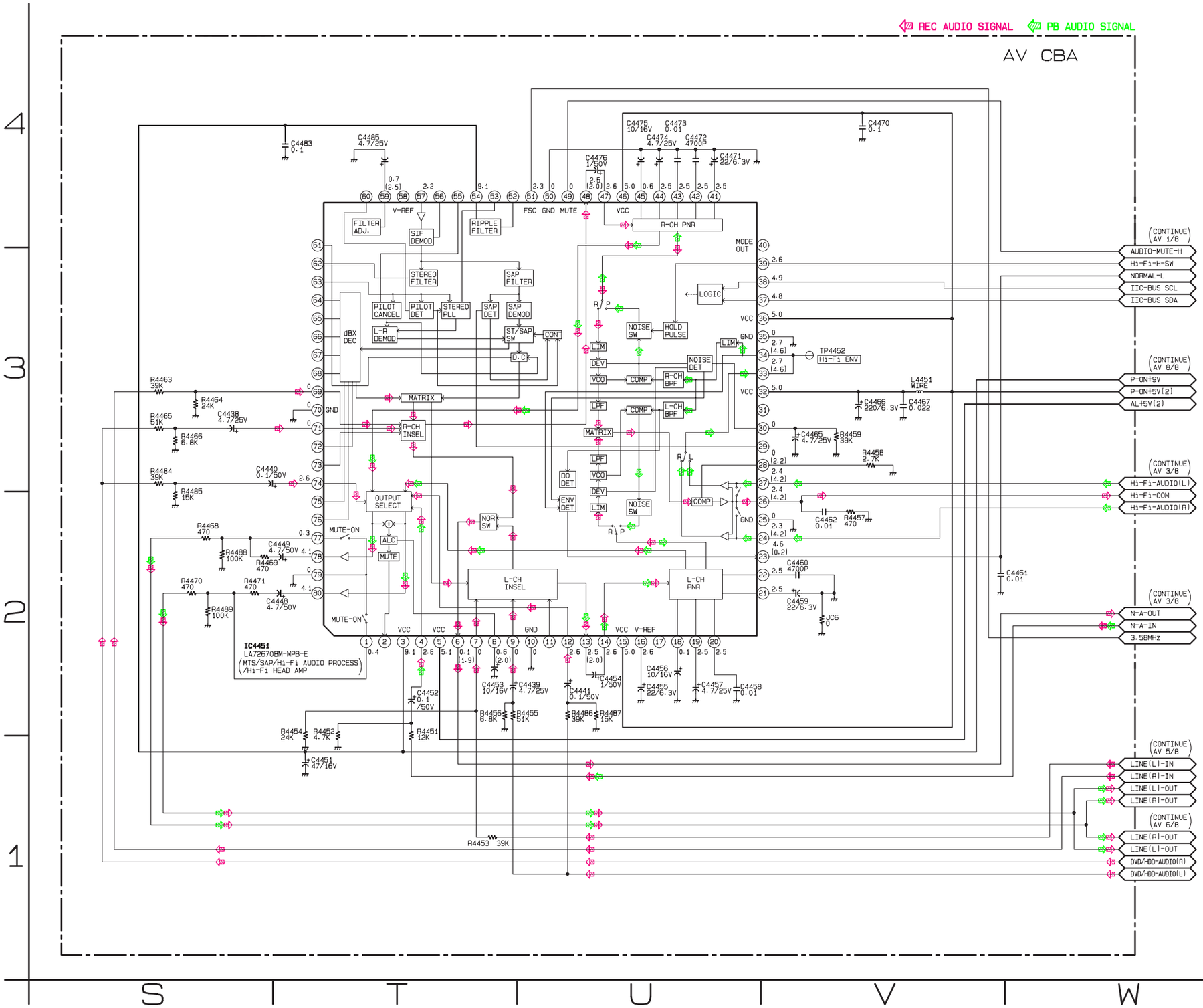
AV 3/8

Ref No.	Position
IC	
IC4301	N-2
TRANSISTORS	
Q4301	Q-3
Q4302	Q-4
Q4303	Q-4
Q4421	N-1
Q4422	N-1
Q4425	N-1
Q4426	N-1
CONNECTOR	
CN4253	M-4
TEST POINTS	
TP4301	P-1
TP4302	O-4

AV 4/8 Schematic Diagram < VCR Section >

AV 4/8

Ref No.	Position
IC	
IC4451	S-2
TEST POINT	
TP4452	V-3

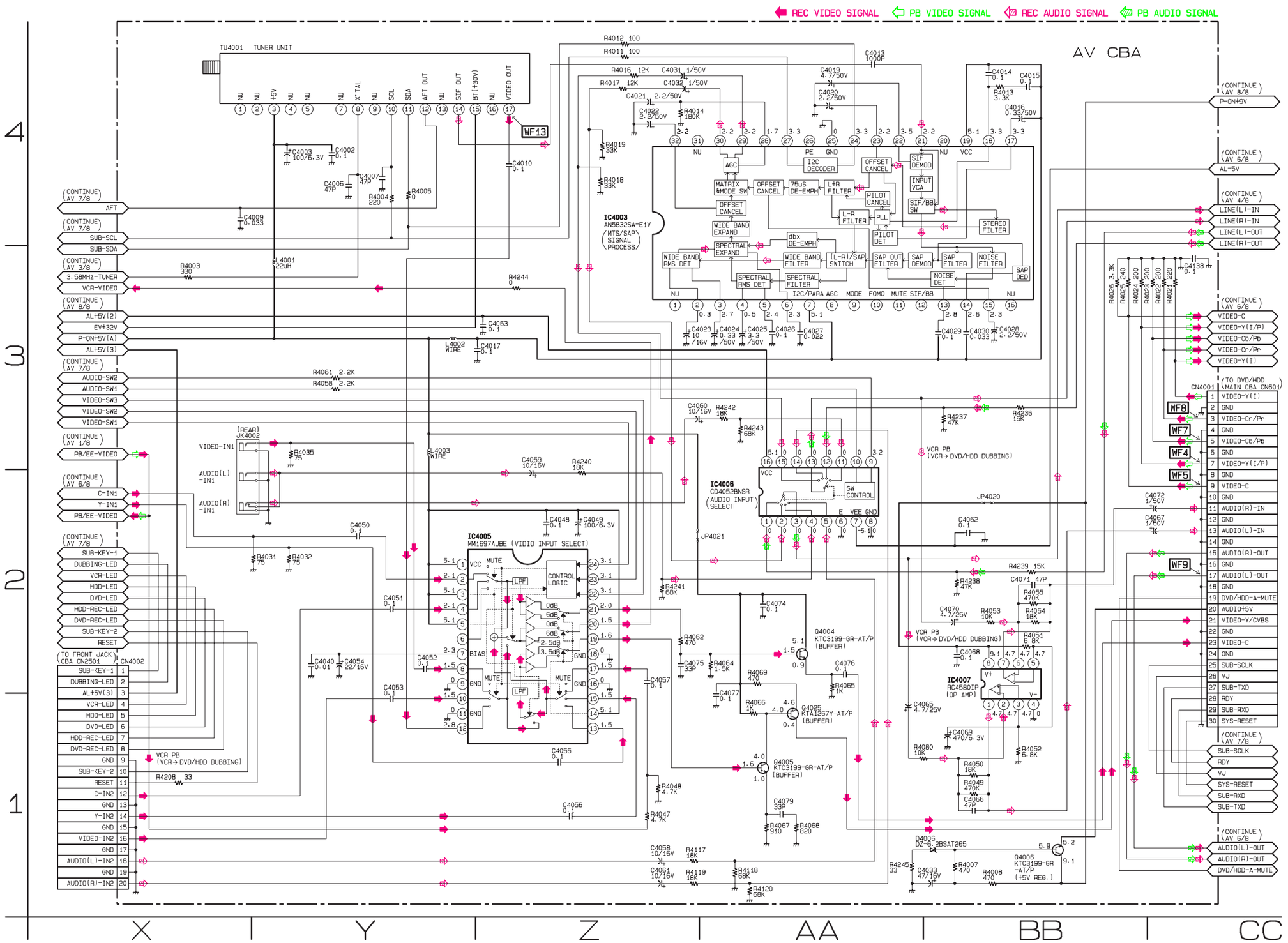


E4340SCAV4

AV 5/8 Schematic Diagram < VCR Section >

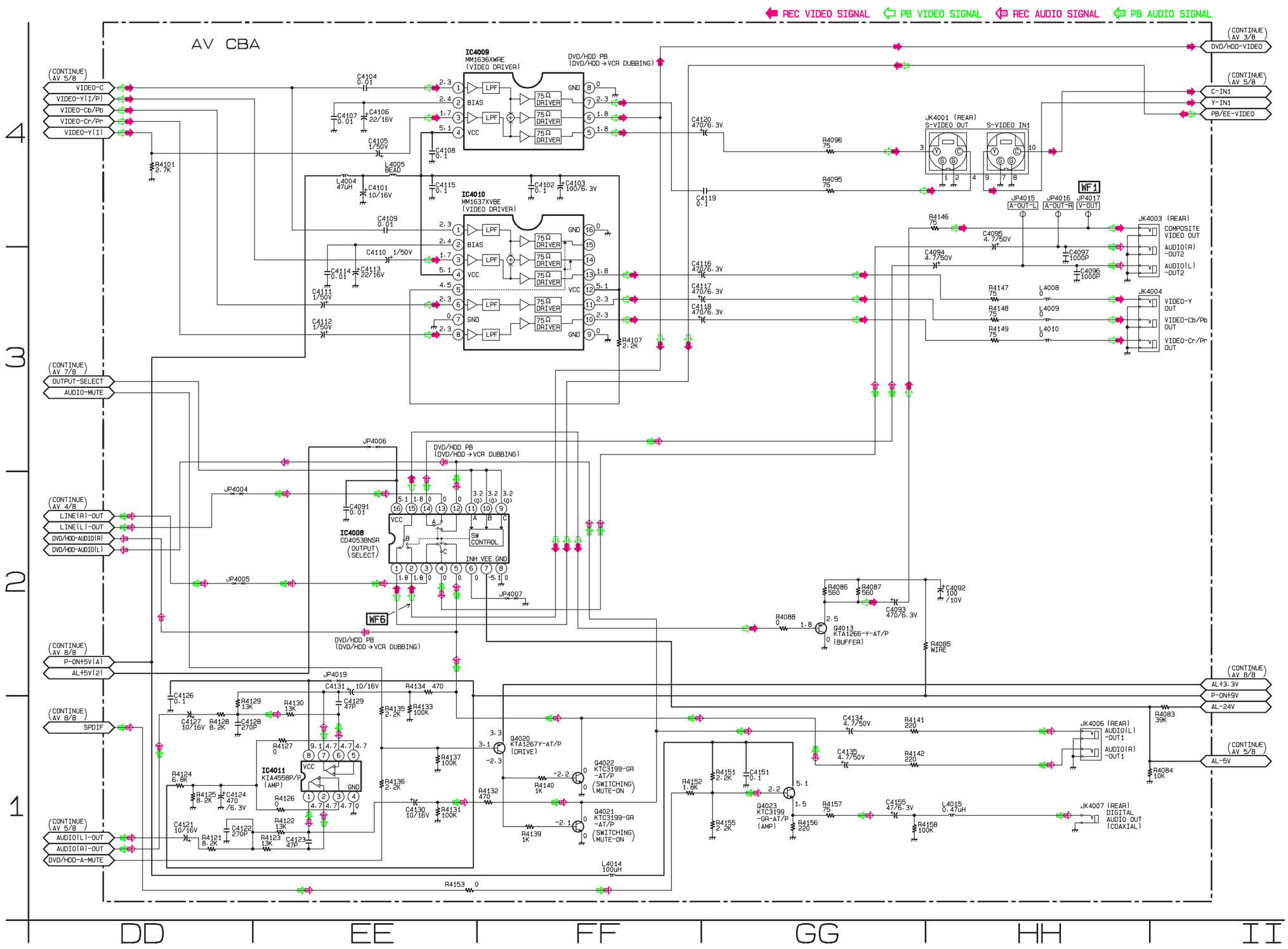
AV 5/8

Ref No.	Position
ICS	
IC4003	Z-4
IC4005	Z-2
IC4006	AA-2
IC4007	BB-2
TRANSISTORS	
Q4004	AA-2
Q4005	AA-1
Q4006	BB-1
Q4025	AA-1
CONNECTORS	
CN4001	CC-3
CN4002	X-2



E4340SCAV5

AV 6/8 Schematic Diagram < VCR Section >



AV 6/8

Ref No.	Position
ICS	
IC4008	EE-2
IC4009	FF-4
IC4010	FF-4
IC4011	EE-1
TRANSISTORS	
Q4013	GG-2
Q4020	FF-1
Q4021	FF-1
Q4022	FF-1
Q4023	GG-1
TEST POINTS	
JP4015	HH-4
JP4016	HH-4
JP4017	HH-4

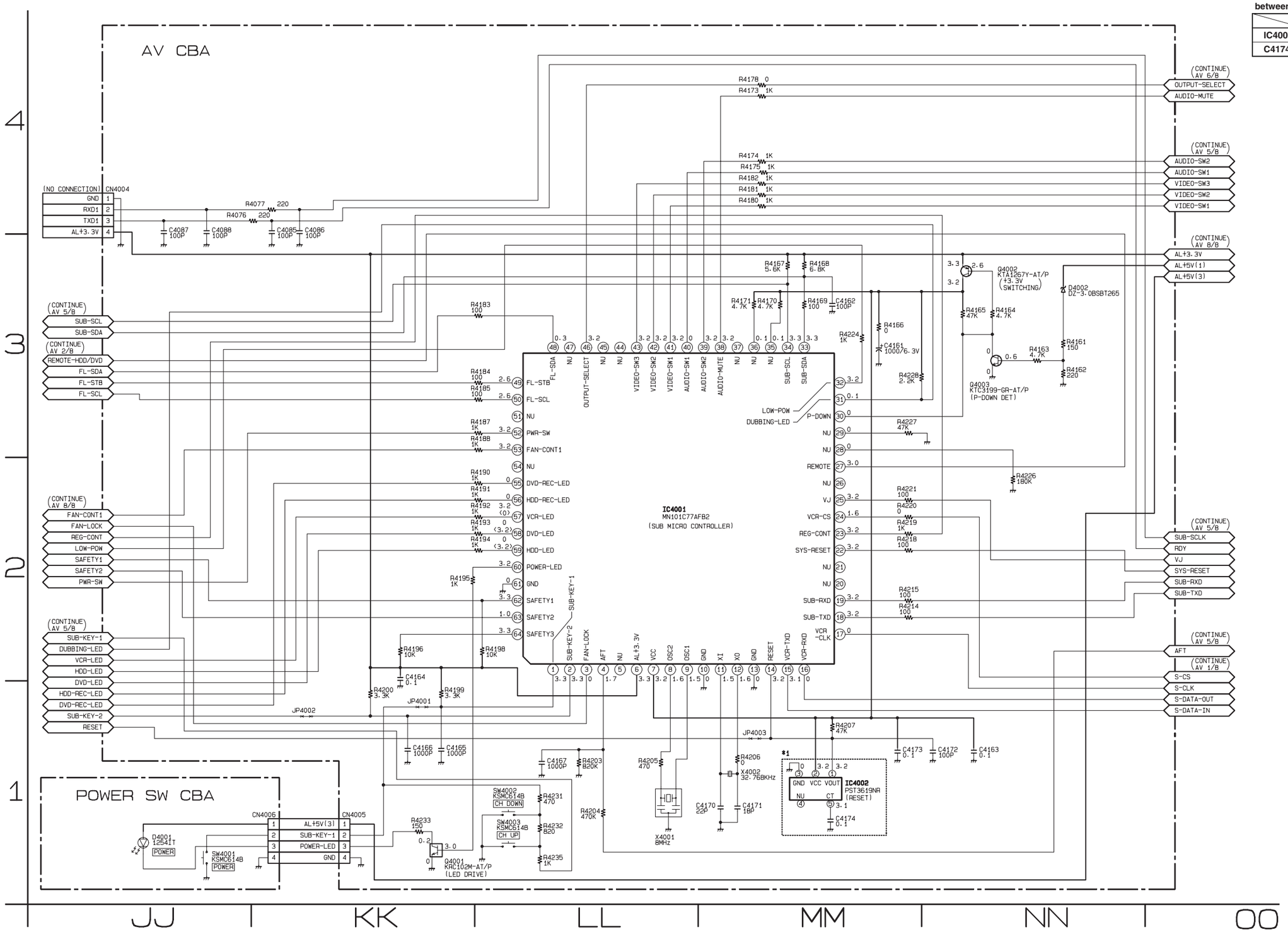
AV 7/8 & Power SW Schematic Diagram < VCR Section >

***1 NOTE**
These components (IC4002, C4174) can be used in any models. However, you cannot mix components under Group A with the ones under Group B. You can choose either Group. The difference between Group A and Group B is shown below.

	Group A	Group B
IC4002	BU4219G-TR	PST3619NR
C4174	0.015	0.1

AV 7/8

Ref No.	Position
ICS	
IC4001	LL-2
IC4002	MM-1
TRANSISTORS	
Q4001	KK-1
Q4002	NN-3
Q4003	NN-3
CONNECTORS	
CN4004	JJ-4
CN4005	KK-1

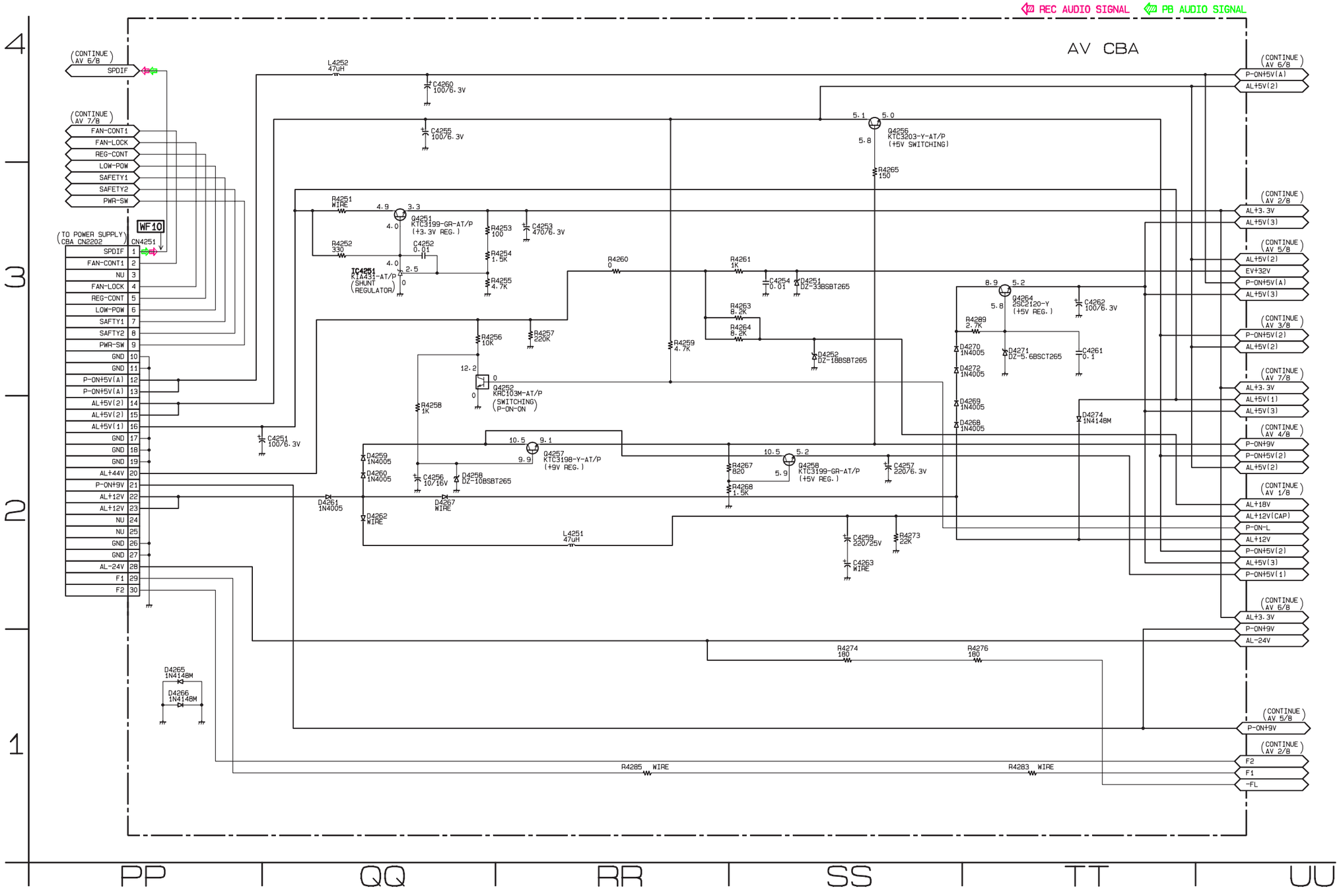


E4340SCAV7

AV 8/8 Schematic Diagram < VCR Section >

AV 8/8

Ref No.	Position
IC	
IC4251	QQ-3
TRANSISTORS	
Q4251	QQ-3
Q4252	RR-3
Q4256	SS-4
Q4257	RR-2
Q4258	SS-2
Q4264	TT-3
CONNECTOR	
CN4251	PP-3



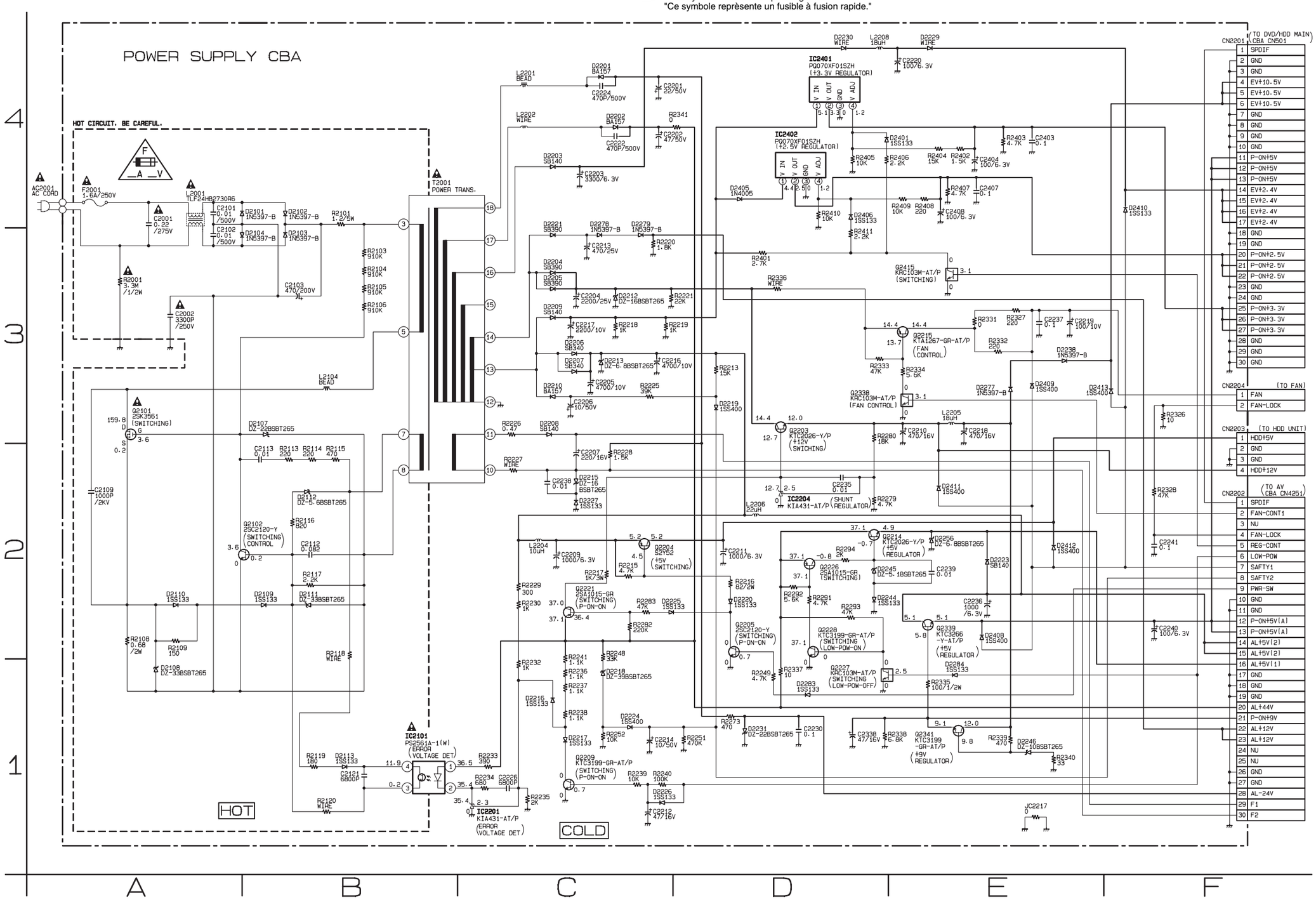
E4340SCAV8

Power Supply Schematic Diagram < VCR Section >

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F2001) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

CAUTION !
For continued protection against fire hazard,
replace only with the same type fuse.
ATTENTION : Pour une protection continue les risques d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.


POWER SUPPLY CBA
HOT CIRCUIT. BE CAREFUL.
HOT
COLD
AC2001 AC CORD
F2001 1.6A/250V
L2001 TLF24HB2730R6
T2001 POWER TRANS.
IC2401 PQ070XF01SZH (+3.3V REGULATOR)
IC2402 PQ070XF01SZH (+2.5V REGULATOR)
IC2204 KIA431-AT/P (SHUNT REGULATOR)
IC2101 PS2561A-1(W) (ERROR VOLTAGE DET)
IC2201 KIA431-AT/P (ERROR VOLTAGE DET)
Q2101 2SK3561 (SWITCHING)
Q2102 2SC2120-Y (SWITCHING CONTROL)
Q2203 KTC2026-Y/P (+12V SWICHING)
Q2204 2SY52 (+5V SWITCHING)
Q2209 KTC3199-GR-AT/P (SWITCHING P-ON-ON)
Q2214 KTC2026-Y/P (+5V REGULATOR)
Q2215 KTA1267-GR-AT/P (FAN CONTROL)
Q2221 2SA1015-GR (SWITCHING P-ON-ON)
Q2226 2SA1015-GR (SWITCHING)
Q2227 KRC103M-AT/P (SWITCHING LOW-POW-OFF)
Q2228 KTC3199-GR-AT/P (SWITCHING LOW-POW-ON)
Q2338 KRC103M-AT/P (FAN CONTROL)
Q2339 KTC3266 -Y-AT/P (+5V REGULATOR)
Q2341 KTC3199 -GR-AT/P (+9V REGULATOR)
Q2415 KRC103M-AT/P (SWITCHING)
(TO DVD/HDD MAIN) CBA CN501
CN2201 SPDIF GND GND EV+10.5V EV+10.5V EV+10.5V GND GND GND GND P-ON+5V P-ON+5V P-ON+5V EV+2.4V EV+2.4V EV+2.4V EV+2.4V GND GND P-ON+2.5V P-ON+2.5V P-ON+2.5V GND GND P-ON+3.3V P-ON+3.3V P-ON+3.3V GND GND GND
CN2204 (TO FAN) FAN FAN-LOCK
CN2203 (TO HDD UNIT) HDD+5V GND GND HDD+12V
CN2202 (TO AV CBA CN4251) SPDIF FAN-CONT1 NU FAN-LOCK REG-CONT LOW-POW SAFTY1 SAFTY2 PWR-SW GND GND P-ON+5V(A) P-ON+5V(A) AL+5V(2) AL+5V(2) AL+5V(1) GND GND GND AL+44V P-ON+9V AL+12V AL+12V NU NU GND GND AL-24V F1 F2

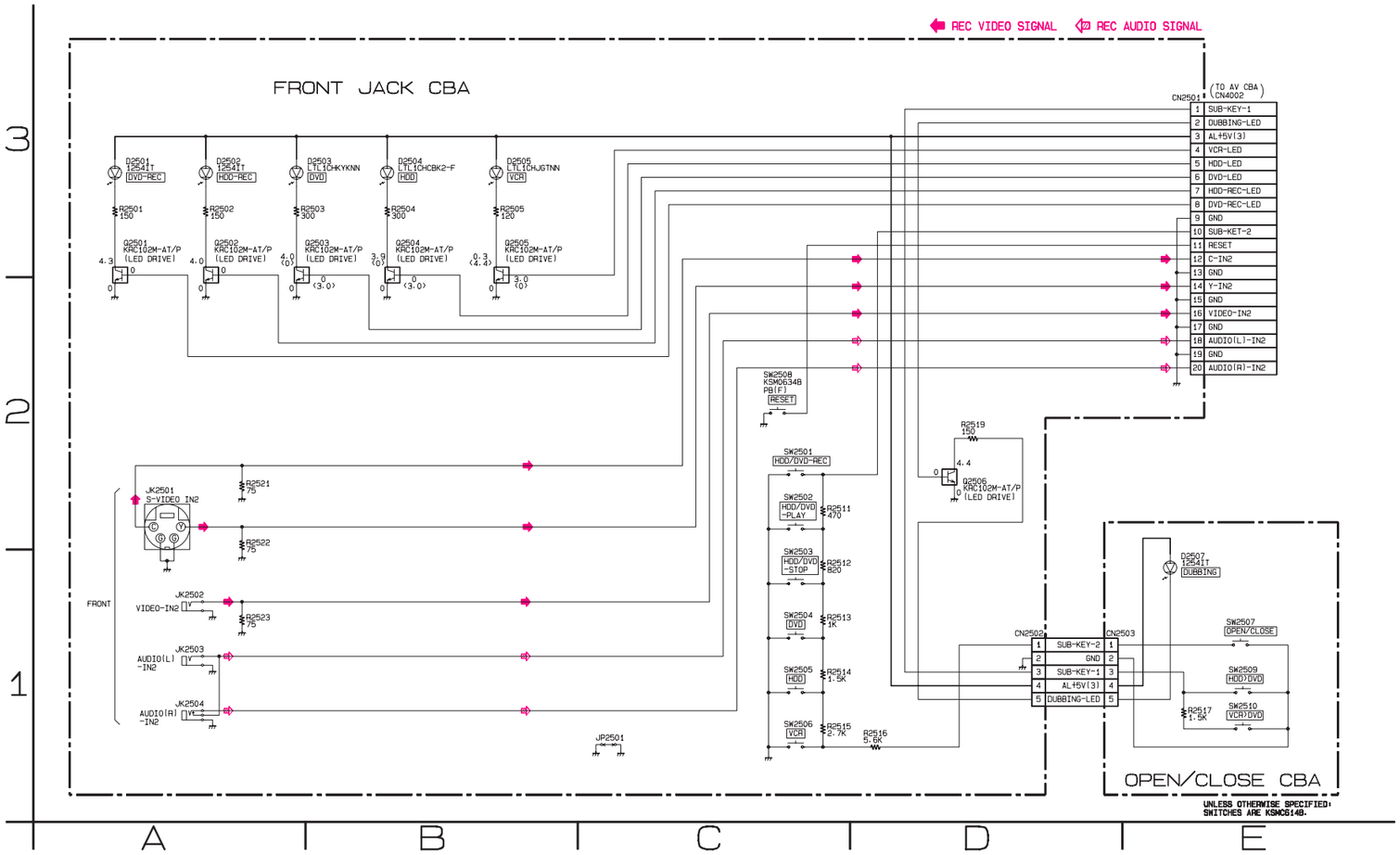
POWER SUPPLY

Ref No.	Position
IC	
IC2101	B-1
IC2201	C-1
IC2204	D-2
IC2401	D-4
IC2402	D-4
TRANSISTORS	
Q2101	A-3
Q2102	A-2
Q2203	D-3
Q2204	C-2
Q2205	D-2
Q2209	C-1
Q2214	E-2
Q2215	E-3
Q2221	C-2
Q2226	D-2
Q2227	D-1
Q2228	D-2
Q2338	D-3
Q2339	E-2
Q2341	E-1
Q2415	E-3
CONNECTORS	
CN2201	F-4
CN2202	F-2
CN2203	F-3
CN2204	F-3

Front Jack & Open/Close Schematic Diagram < VCR Section >

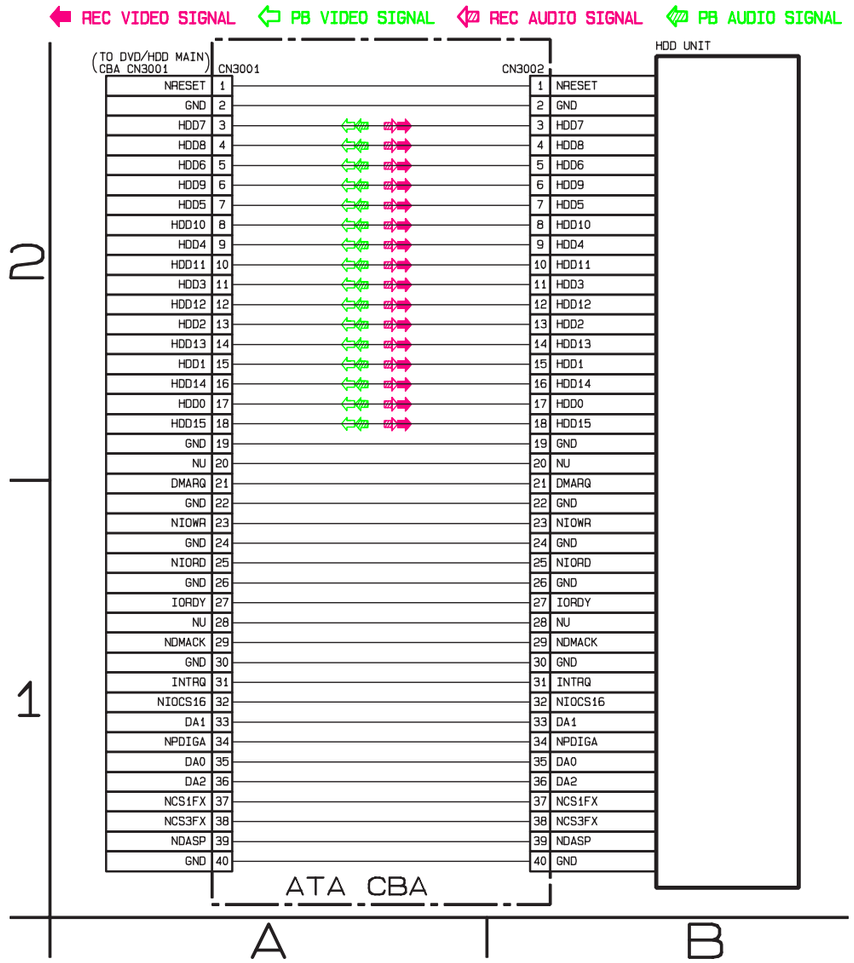
FRONT JACK

Ref No.	Position
TRANSISTORS	
Q2501	A-3
Q2502	A-3
Q2503	B-3
Q2504	B-3
Q2505	B-3
Q2506	D-2
CONNECTORS	
CN2501	E-3
CN2502	D-1



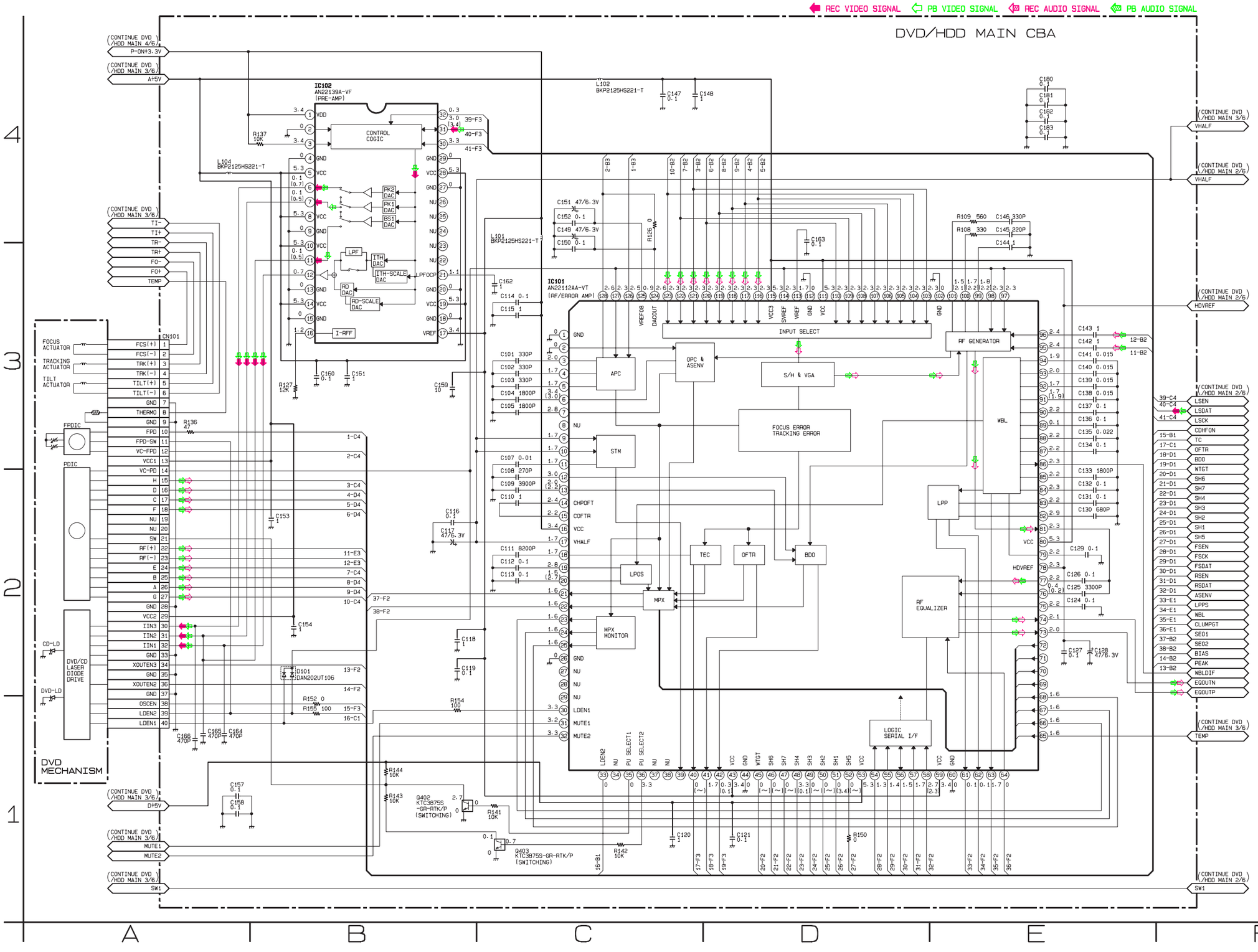
E4340SCJ

ATA Schematic Diagram < DVD/HDD Section >


REC VIDEO SIGNAL
PB VIDEO SIGNAL
REC AUDIO SIGNAL
PB AUDIO SIGNAL
(TO DVD/HDD MAIN) CBA CN3001
CN3001
CN3002
HDD UNIT
NRESET 1 — 1 NRESET
GND 2 — 2 GND
HDD7 3 — 3 HDD7
HDD8 4 — 4 HDD8
HDD6 5 — 5 HDD6
HDD9 6 — 6 HDD9
HDD5 7 — 7 HDD5
HDD10 8 — 8 HDD10
HDD4 9 — 9 HDD4
HDD11 10 — 10 HDD11
HDD3 11 — 11 HDD3
HDD12 12 — 12 HDD12
HDD2 13 — 13 HDD2
HDD13 14 — 14 HDD13
HDD1 15 — 15 HDD1
HDD14 16 — 16 HDD14
HDD0 17 — 17 HDD0
HDD15 18 — 18 HDD15
GND 19 — 19 GND
NU 20 — 20 NU
DMARQ 21 — 21 DMARQ
GND 22 — 22 GND
NIOWR 23 — 23 NIOWR
GND 24 — 24 GND
NIORD 25 — 25 NIORD
GND 26 — 26 GND
IORDY 27 — 27 IORDY
NU 28 — 28 NU
NDMACK 29 — 29 NDMACK
GND 30 — 30 GND
INTRQ 31 — 31 INTRQ
NIOCS16 32 — 32 NIOCS16
DA1 33 — 33 DA1
NPDIGA 34 — 34 NPDIGA
DA0 35 — 35 DA0
DA2 36 — 36 DA2
NCS1FX 37 — 37 NCS1FX
NCS3FX 38 — 38 NCS3FX
NDASP 39 — 39 NDASP
GND 40 — 40 GND
ATA CBA
A B
1 2

E4340SCAT

DVD/HDD Main 1/6 Schematic Diagram < DVD/HDD Section >



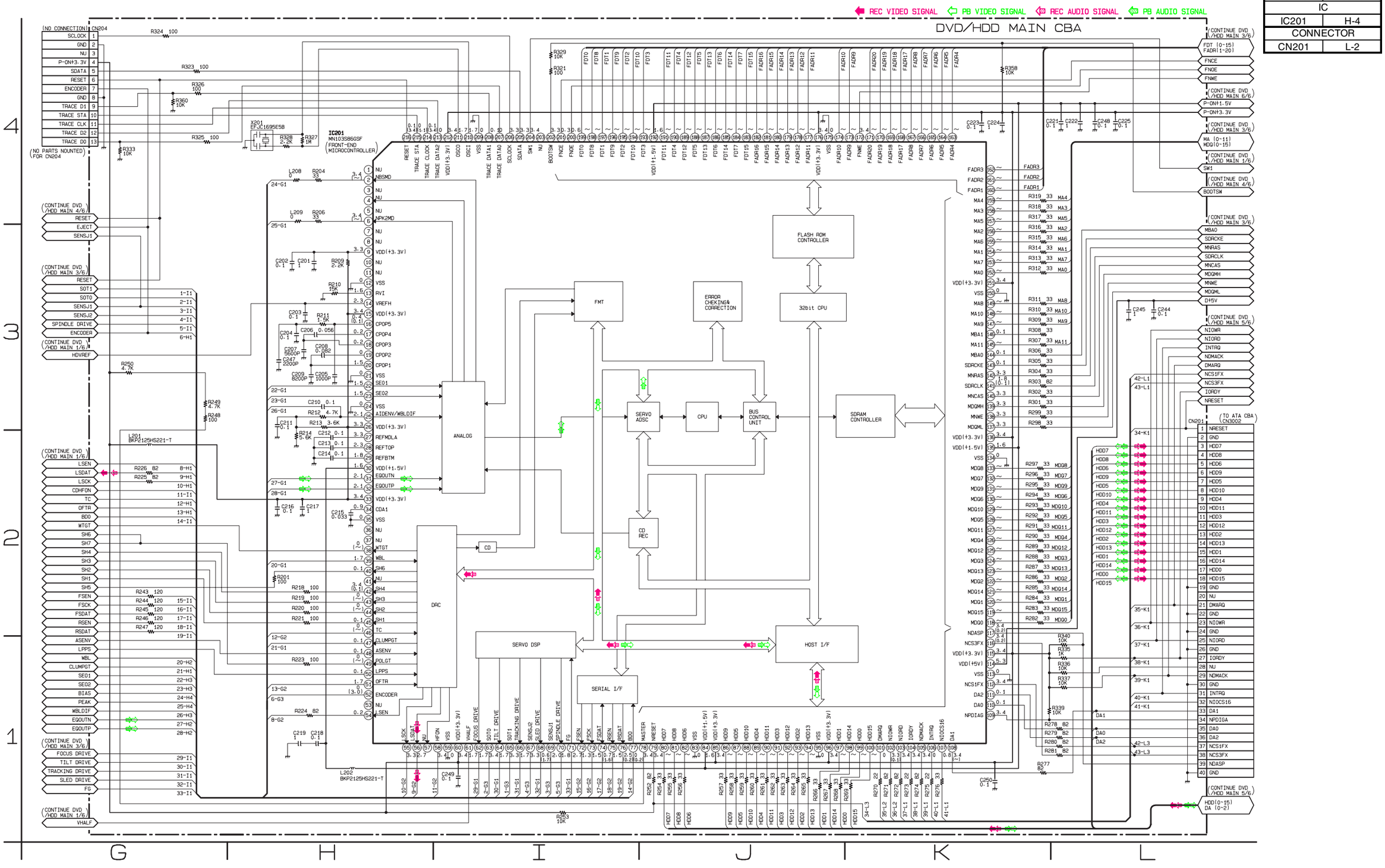
DVD/HDD MAIN 1/6

Ref No.	Position
ICS	
IC101	C-3
IC102	B-4
TRANSISTORS	
Q402	B-1
Q403	C-1
CONNECTOR	
CN101	A-3

DVD/HDD Main 2/6 Schematic Diagram < DVD/HDD Section >

DVD/HDD MAIN 2/6

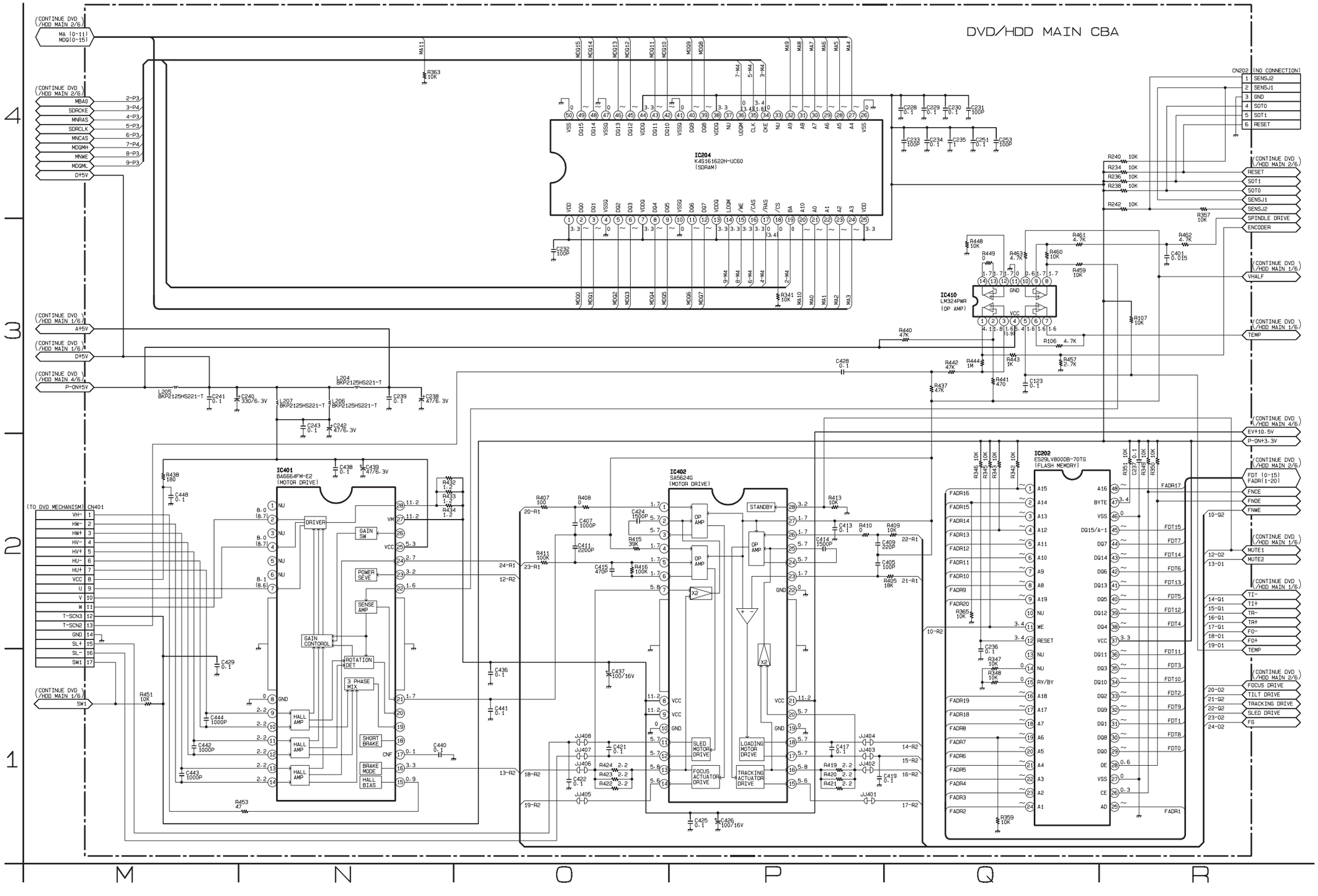
Ref No.	Position
IC	
IC201	H-4
CONNECTOR	
CN201	L-2



DVD/HDD Main 3/6 Schematic Diagram < DVD/HDD Section >

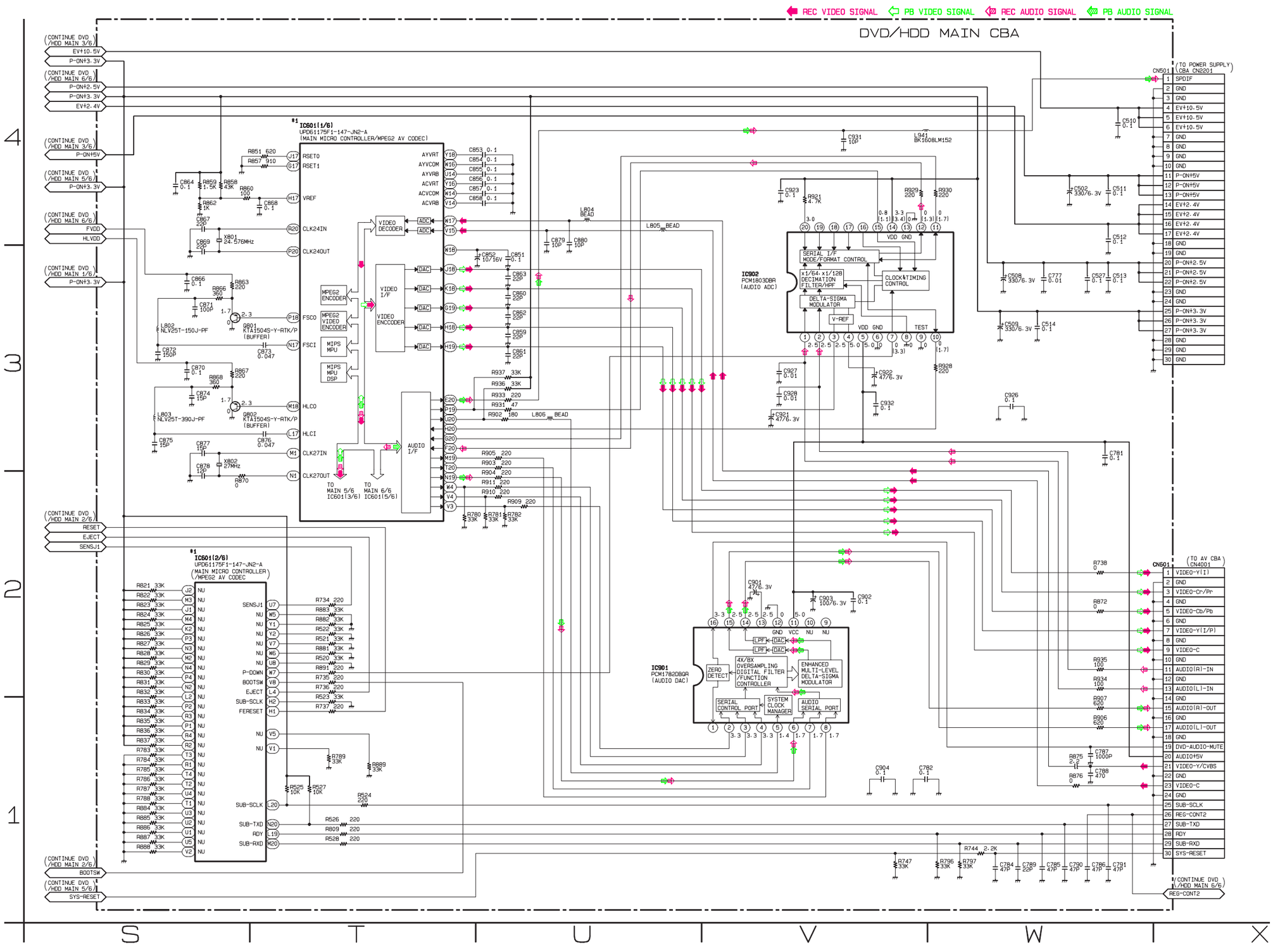
DVD/HDD MAIN 3/6

Ref No.	Position
ICS	
IC202	Q-2
IC204	P-4
IC401	N-2
IC402	P-2
IC410	Q-3
CONNECTORS	
CN202	R-4
CN401	M-2



DVD/HDD Main 4/6 Schematic Diagram < DVD/HDD Section >

NOTE:
1. The order of pins shown in this diagram is different from that of actual IC601.
2. IC601 is divided into six and shown as IC601 (1/6) ~ IC601 (6/6) in this DVD/HDD Main Schematic Diagram Section.

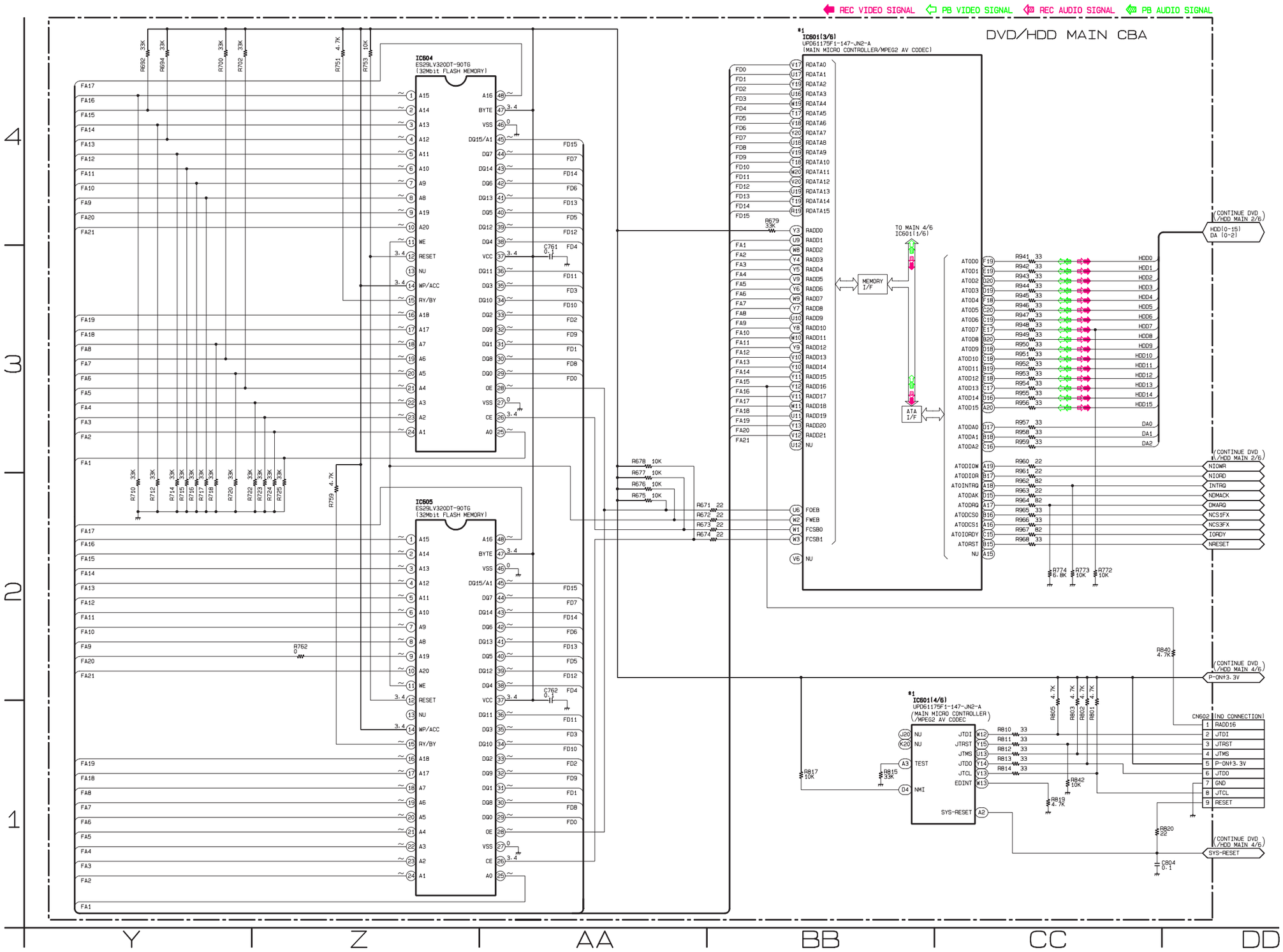


DVD/HDD MAIN 4/6

Ref No.	Position
ICS	
IC601(1/6)	T-4
IC601(2/6)	S-2
IC901	U-2
IC902	V-3
TRANSISTORS	
Q801	S-3
Q802	S-3
CONNECTORS	
CN501	X-4
CN601	X-2

DVD/HDD Main 5/6 Schematic Diagram < DVD/HDD Section >

NOTE:
1. The order of pins shown in this diagram is different from that of actual IC601.
2. IC601 is divided into six and shown as IC601 (1/6) ~ IC601 (6/6) in this DVD/HDD Main Schematic Diagram Section.



DVD/HDD MAIN 5/6

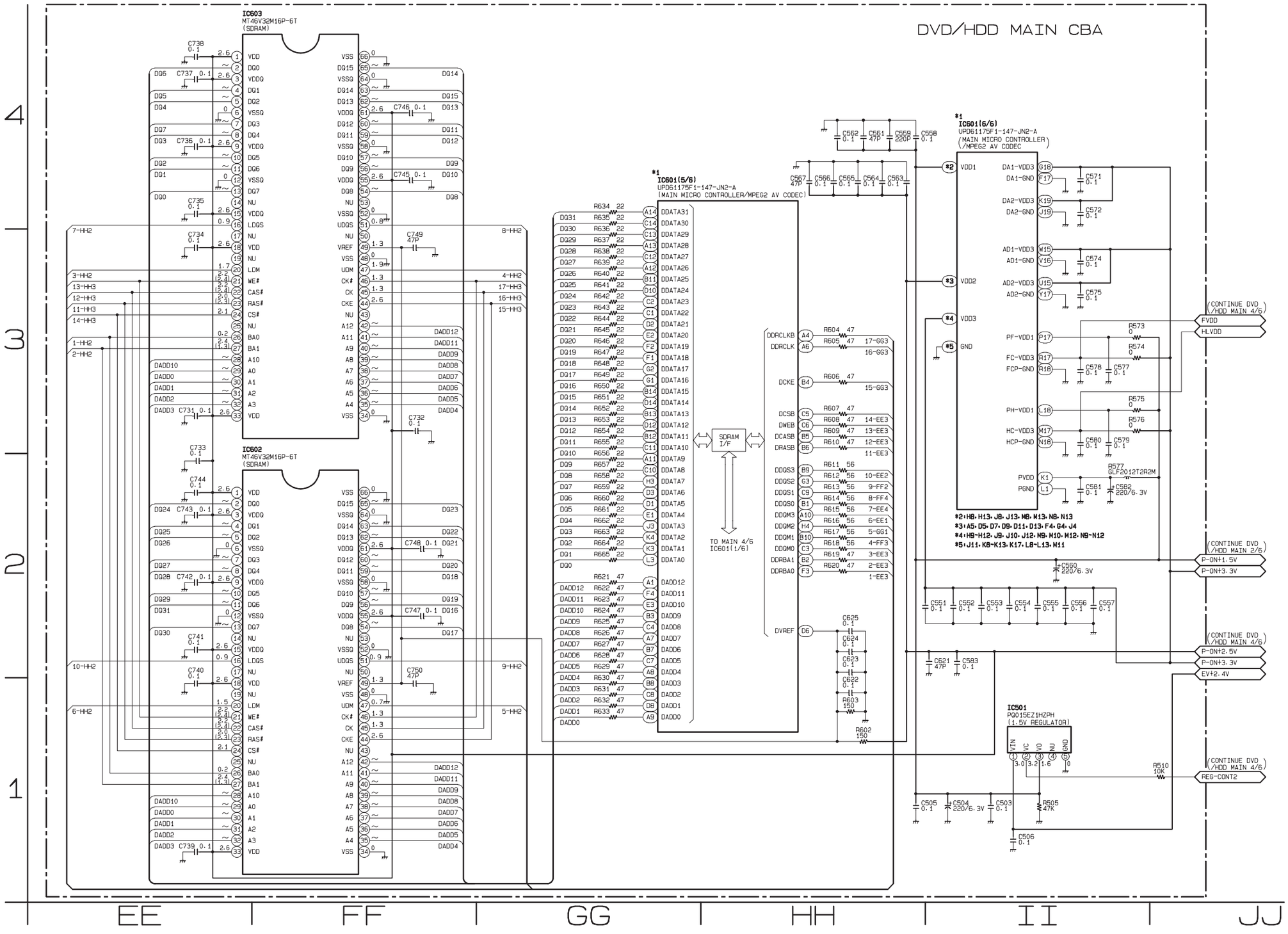
Ref No.	Position
ICS	
IC601(3/6)	BB-4
IC601(4/6)	BB-1
IC604	Z-4
IC605	Z-2
CONNECTOR	
CN602	DD-1

DVD/HDD Main 6/6 Schematic Diagram < DVD/HDD Section >

NOTE:
1. The order of pins shown in this diagram is different from that of actual IC601.
2. IC601 is divided into six and shown as IC601 (1/6) ~ IC601 (6/6) in this DVD/HDD Main Schematic Diagram Section.

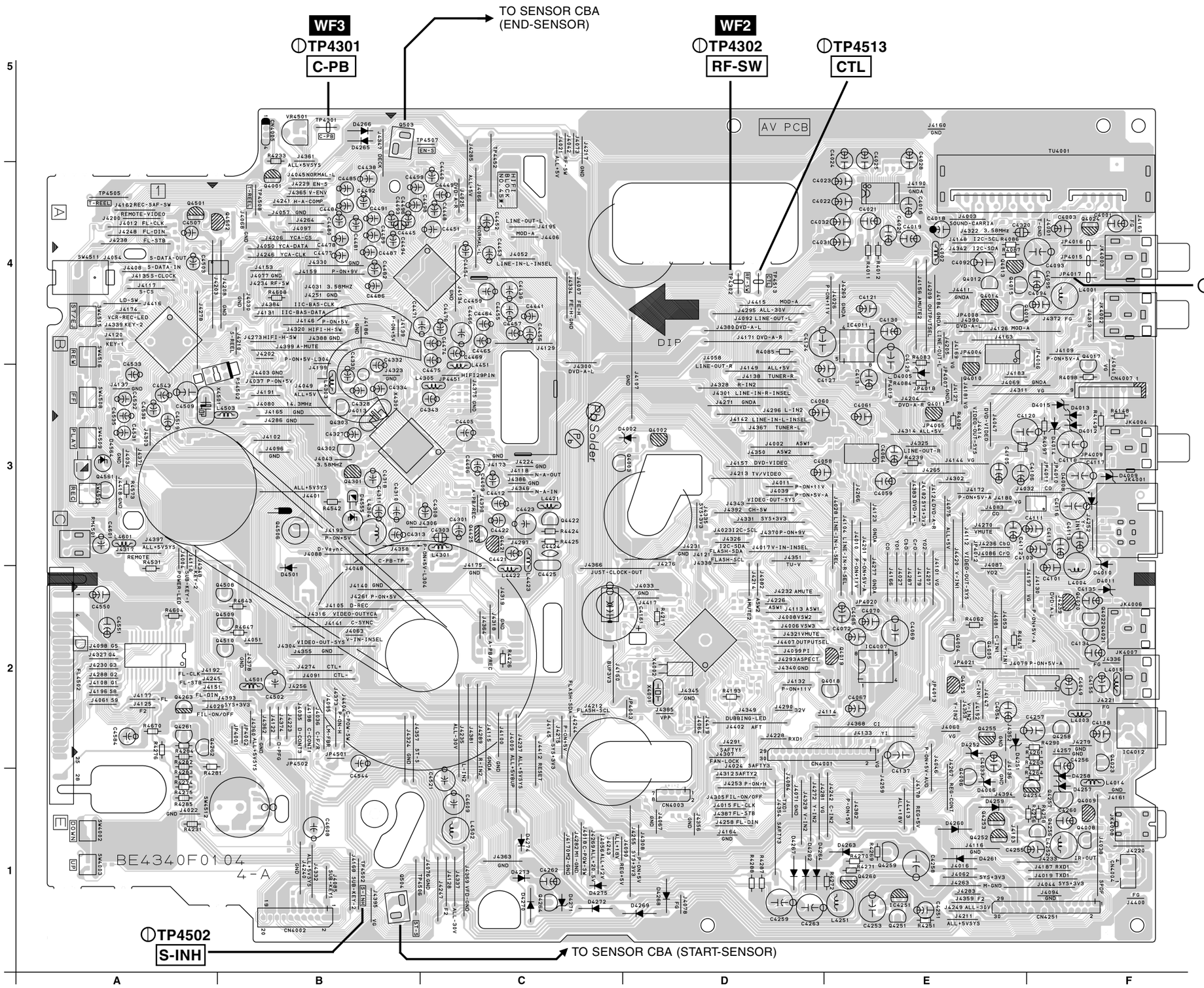
DVD/HDD MAIN 6/6

Ref No.	Position
ICS	
IC501	II-1
IC601(5/6)	GG-4
IC601(6/6)	II-4
IC602	FF-2
IC603	FF-4

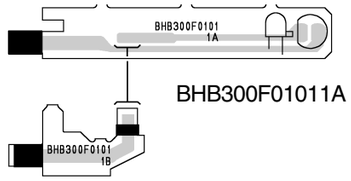


E4340SCM6

AV CBA Top View



Sensor CBA Top View



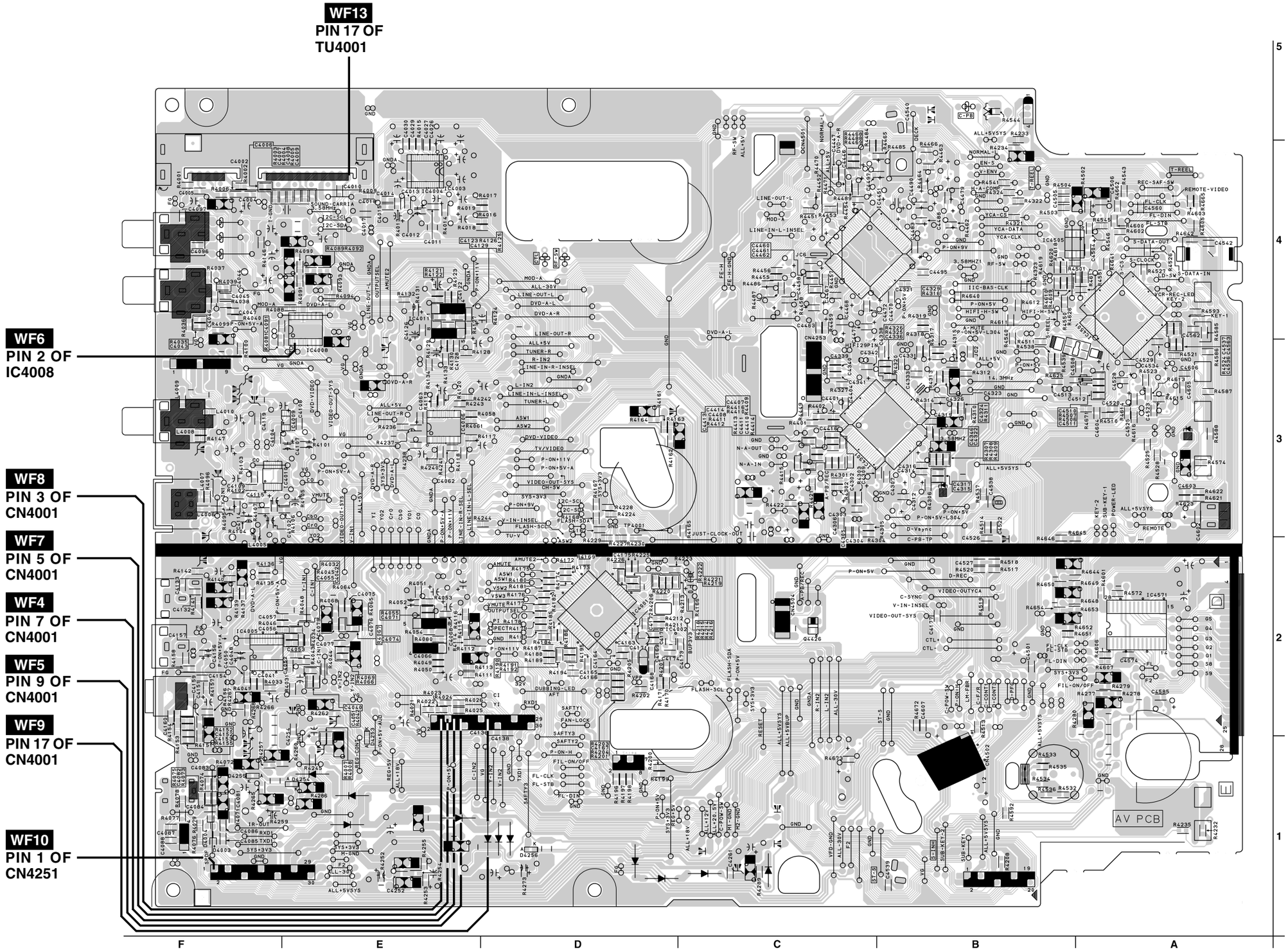
BHB300F01011A

BHB300F01011B

AV CBA

Ref No.	Position	Ref No.	Position
ICS		TRANSISTORS	
IC4001	D-2	Q4303	B-3
IC4002	D-2	Q4421	C-3
IC4003	E-4	Q4422	C-3
IC4005	F-2	Q4425	C-3
IC4006	E-3	Q4426	C-2
IC4007	E-2	Q4501	A-4
IC4008	E-3	Q4502	B-4
IC4009	F-3	Q4506	B-3
IC4010	F-3	Q4508	B-2
IC4011	E-4	Q4509	B-2
IC4251	E-1	Q4510	B-2
IC4301	C-3	Q4561	A-3
IC4451	B-4	CONNECTORS	
IC4501	A-4	CN4001	D-1
IC4571	A-2	CN4002	B-1
TRANSISTORS		CN4004	F-1
Q4001	B-4	CN4005	B-5
Q4002	D-3	CN4251	F-1
Q4003	D-3	CN4253	C-4
Q4004	E-2	CN4501	C-5
Q4005	E-2	CN4502	B-1
Q4006	E-1	CN4504	C-2
Q4013	E-4	VARIABLE RESISTOR	
Q4020	F-2	VR4501	B-5
Q4021	F-2	TEST POINTS	
Q4022	F-2	JP4015	F-4
Q4023	F-1	JP4016	F-4
Q4025	E-2	JP4017	F-4
Q4251	E-1	TP4301	B-5
Q4252	E-1	TP4302	D-4
Q4256	F-1	TP4452	C-5
Q4257	F-1	TP4502	B-1
Q4258	F-2	TP4506	B-1
Q4264	C-1	TP4507	B-5
Q4301	B-3	TP4508	B-4
Q4302	B-3	TP4513	D-4

AV CBA Bottom View



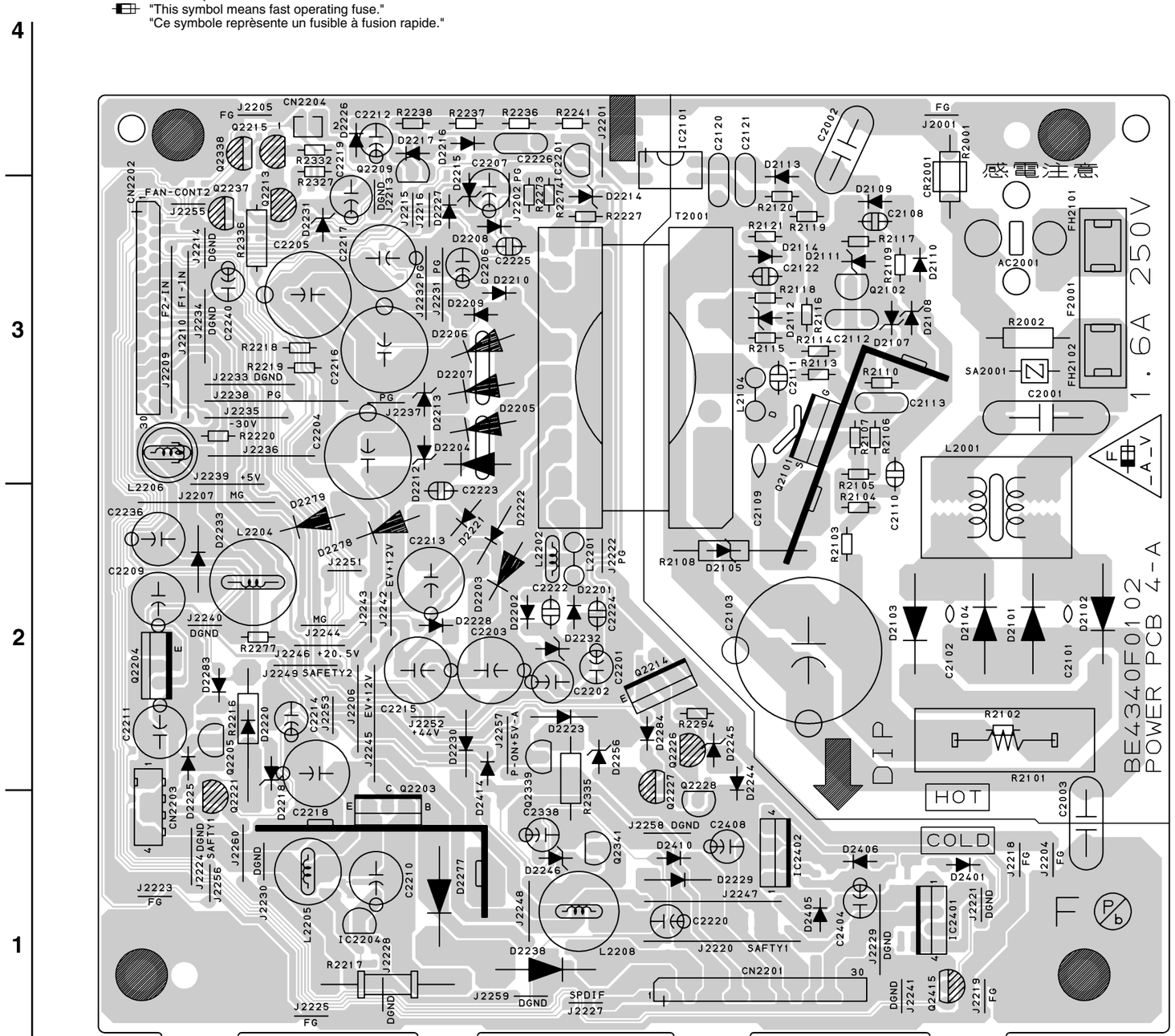
Power Supply CBA Top View

CAUTION !
For continued protection against fire hazard, replace only with the same type fuse.
ATTENTION : Pour une protection continue les risqes d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F2001) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

Because a hot chassis ground is present in the power supply circut, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.


4
3
2
1
A
B
C
D
感電注意
1.6A 250V
BE4340F0102
POWER PCB 4-A
DIP
HOT
COLD
T2001
L2001
IC2101
IC2402
IC2401
IC22004
CN2204
CN2202
CN2203
CN2201
J2205
J2215
J2216
J2213
J2214
J2255
J2209
J2210
J2234
J2233 DGND
J2238
J2235
J2236
J2239 +5V
J2207
J2251
J2240
J2244
J2246 +20.5V
J2249 SAFETY2
J2253
J2206
J2245 EV+12V
J2252 +44V
J2257
J2202
J2231
J2232
J2237
J2243
J2242 EV+12V
J2222
J2258 DGND
J2247
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J2241
J2219
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R2103
R2102
R2101
R2002
R2001
SA2001
AC2001
F2001
FH2101
FH2102
C2001
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L2206
L2208
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R2270
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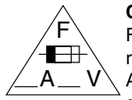
R2275
R2276
R2277
R2278
R2279
R2280

Power Supply CBA Bottom View



CAUTION !
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replace only with the same type fuse.
ATTENTION : Pour une protection continue les risqes
d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

CAUTION !
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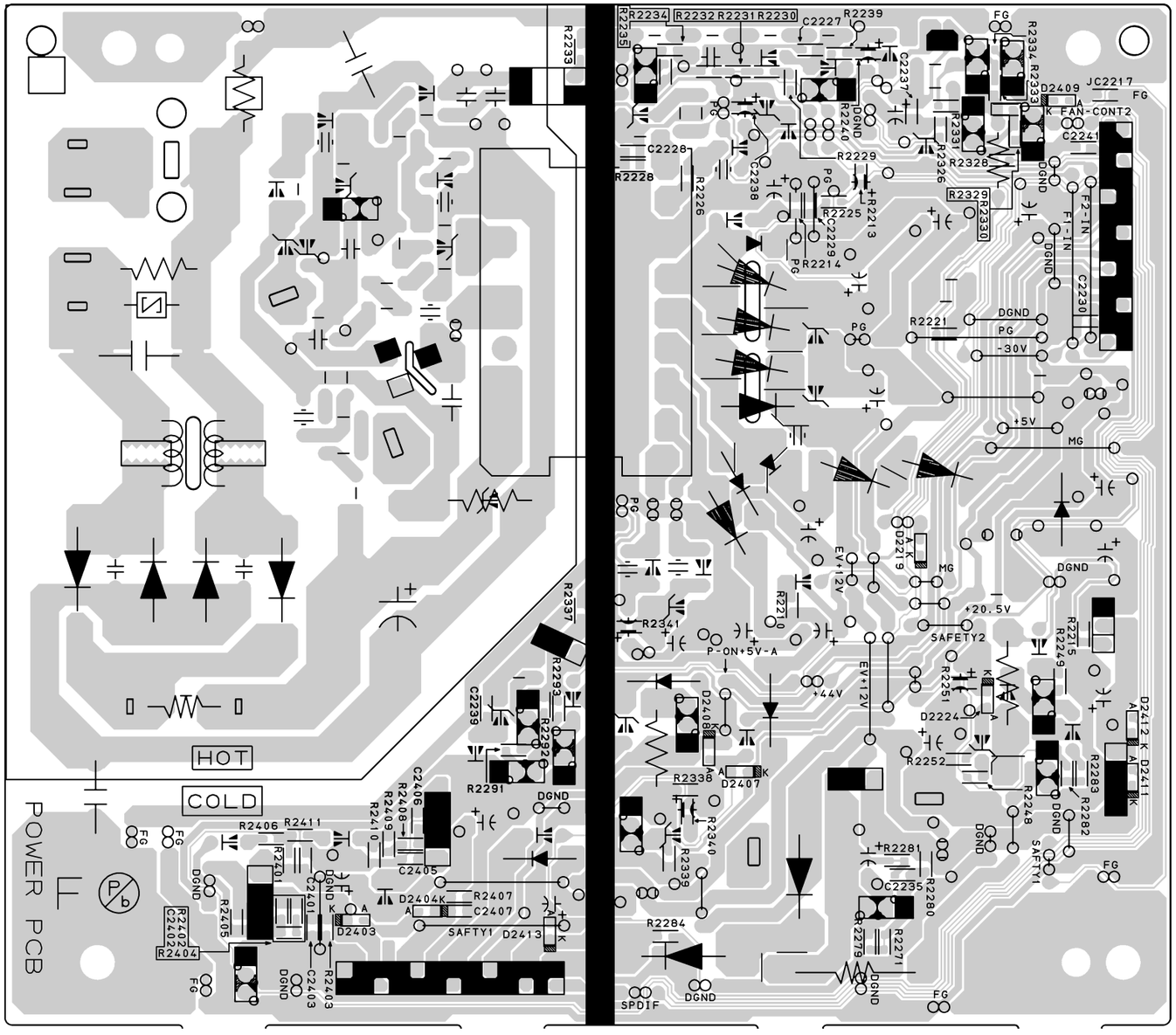
If Main Fuse (F2001) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

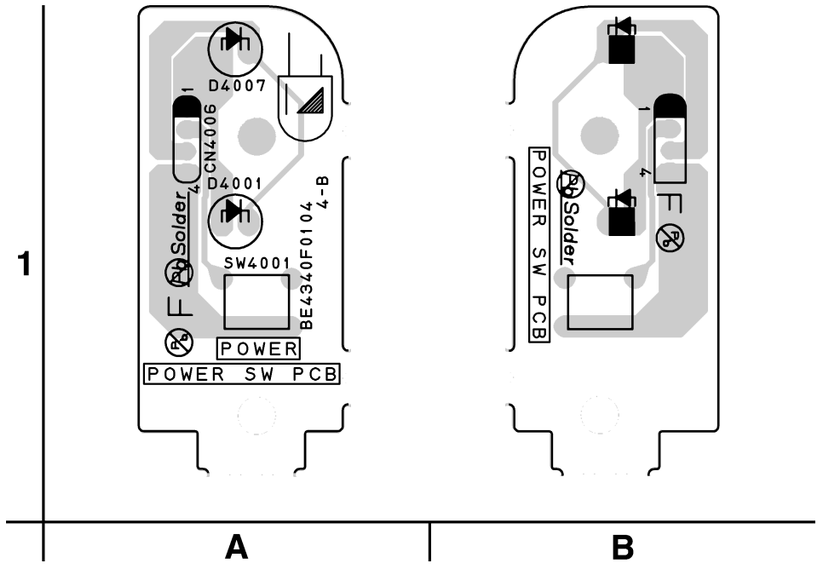
Because a hot chassis ground is present in the power supply circut, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



Power SW CBA Top View

Power SW CBA Bottom View



BE4340F01044B

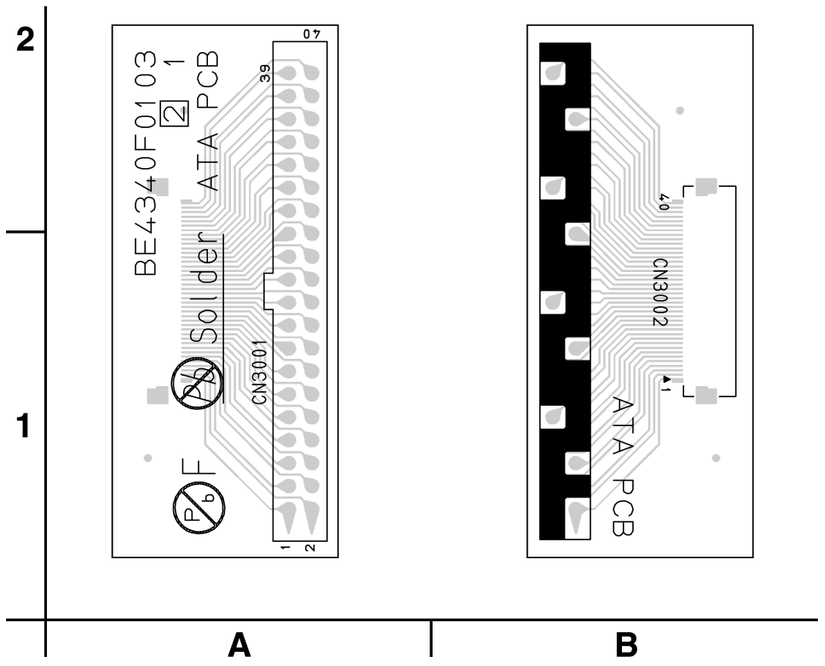
Open/Close CBA Top View

Open/Close CBA Bottom View

BE4340F01024C

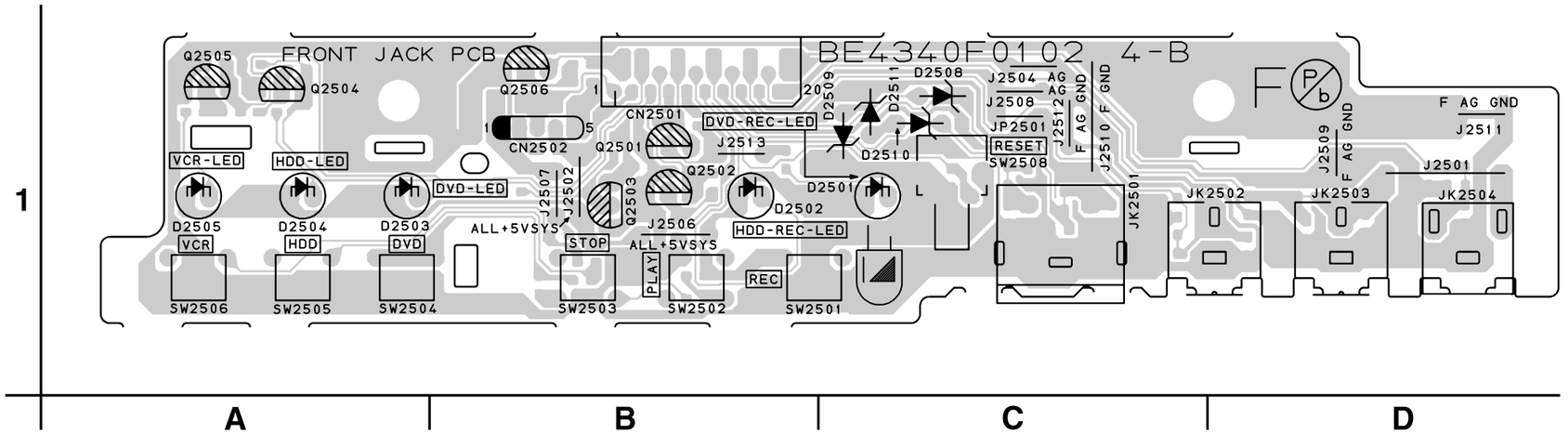
ATA CBA Top View

ATA CBA Bottom View



BE4340F01031

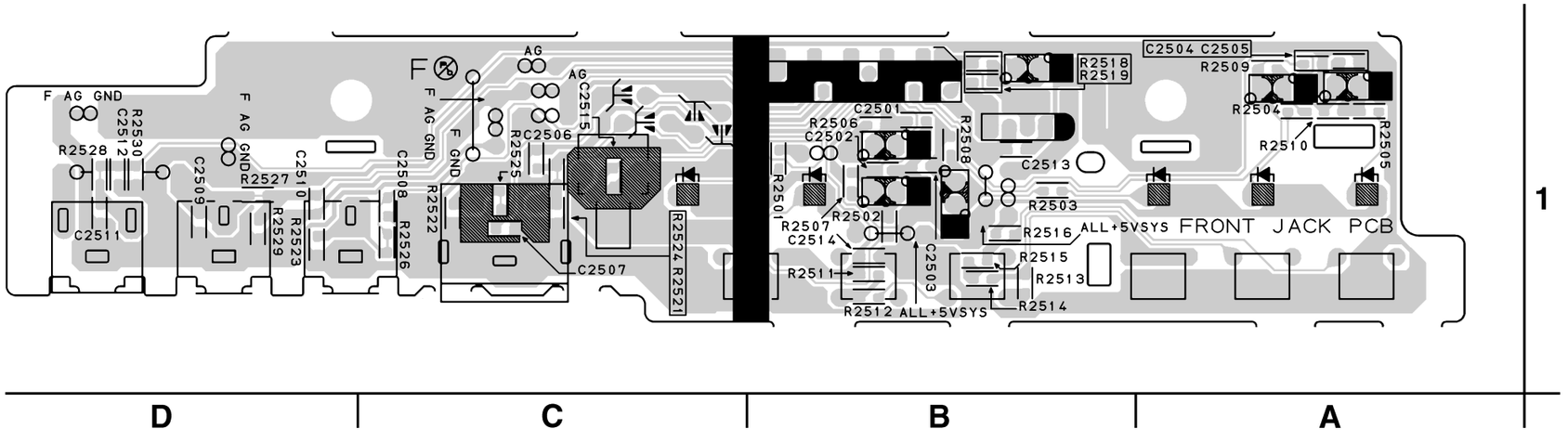
Front Jack CBA Top View



FRONT JACK

Ref No.	Position
TRANSISTORS	
Q2501	B-1
Q2502	B-1
Q2503	B-1
Q2504	A-1
Q2505	A-1
Q2506	B-1
CONNECTORS	
CN2501	B-1
CN2502	B-1

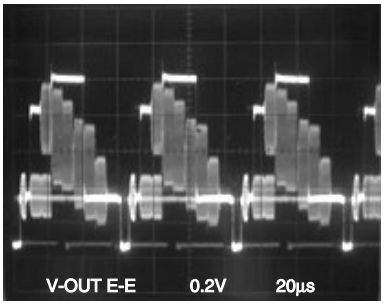
Front Jack CBA Bottom View



WAVEFORMS

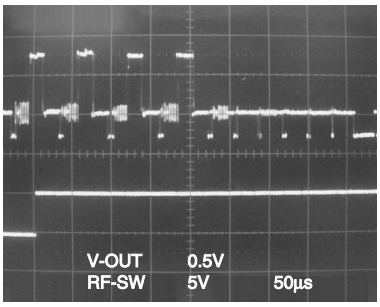
NOTE:
Input: COLOR BAR SIGNAL (WITH 1KHz AUDIO SIGNAL)

WF1 JP4017



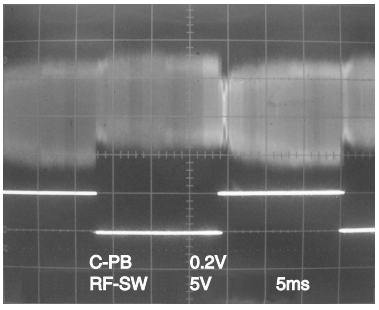
WF1 UPPER JP4017

WF2 LOWER TP4302

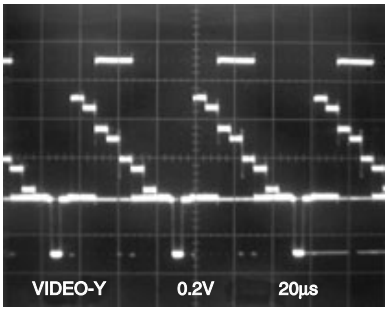


WF3 UPPER TP4301

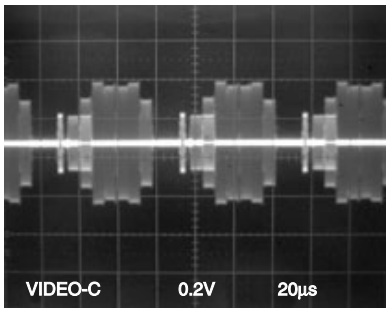
WF2 LOWER TP4302



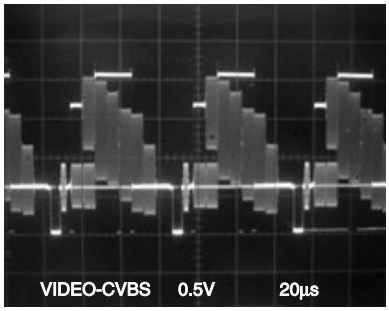
WF4 Pin 7 of CN4001



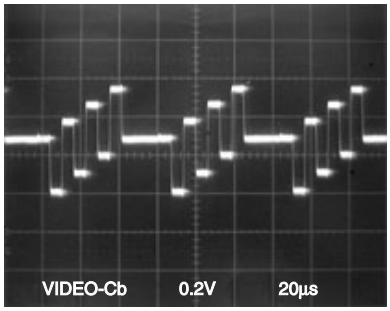
WF5 Pin 9 of CN4001



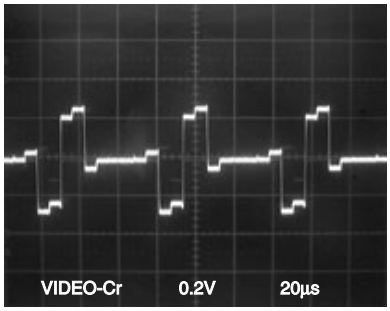
WF6 Pin 2 of IC4008



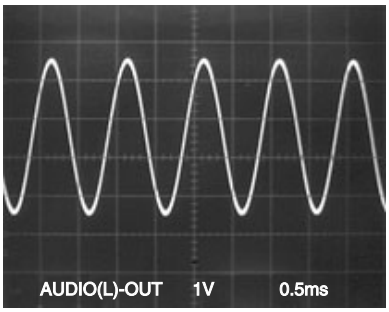
WF7 Pin 5 of CN4001



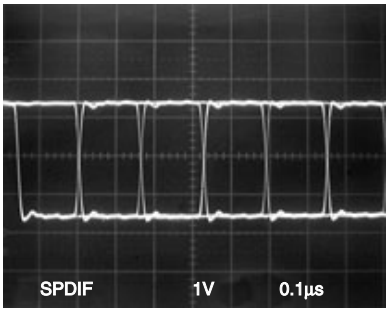
WF8 Pin 3 of CN4001



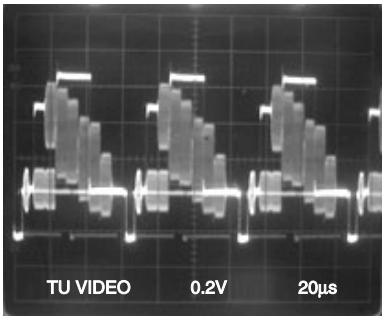
WF9 Pin 17 of CN4001



WF10 Pin 1 of CN4251

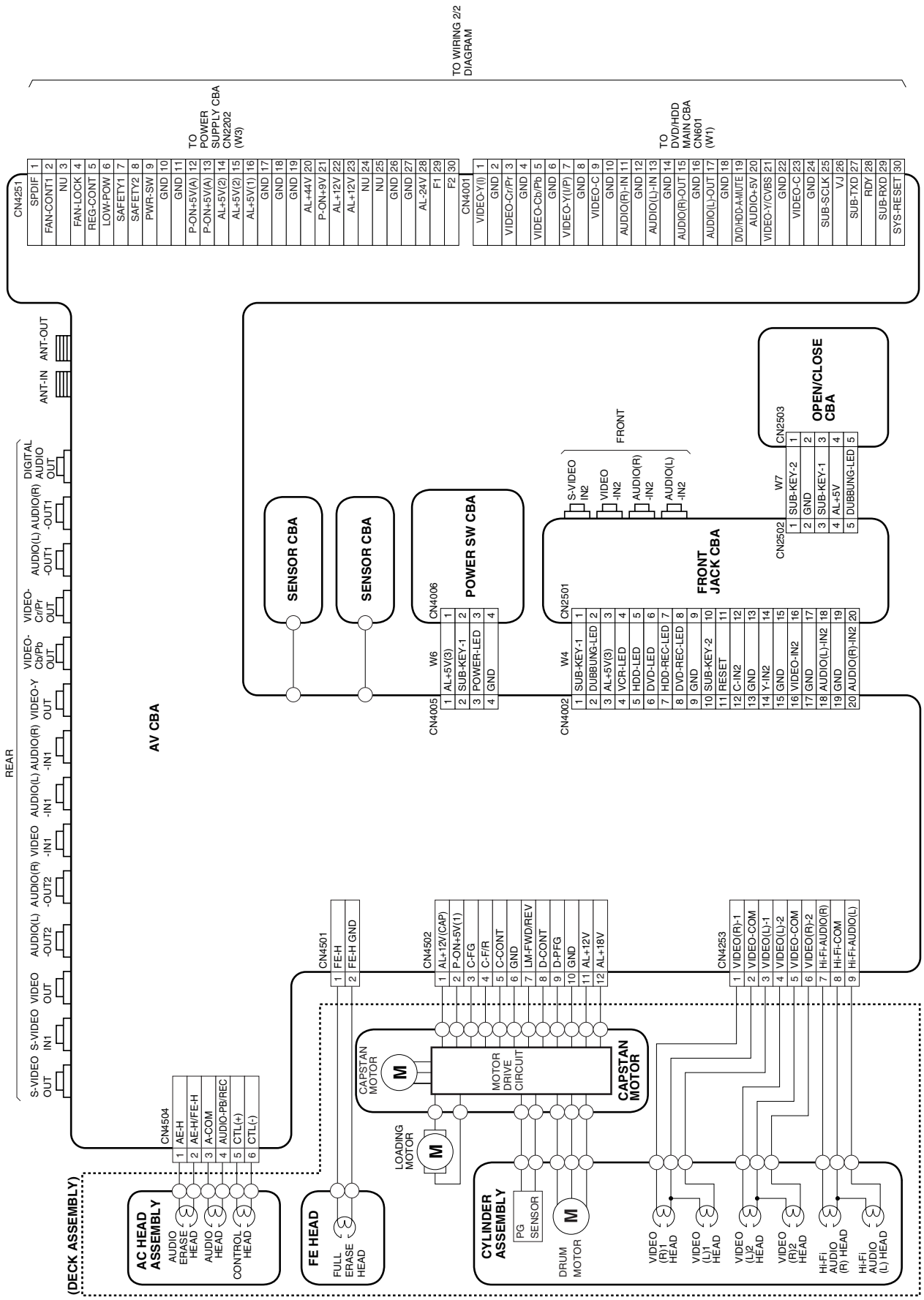


WF13 Pin 17 of TU4001

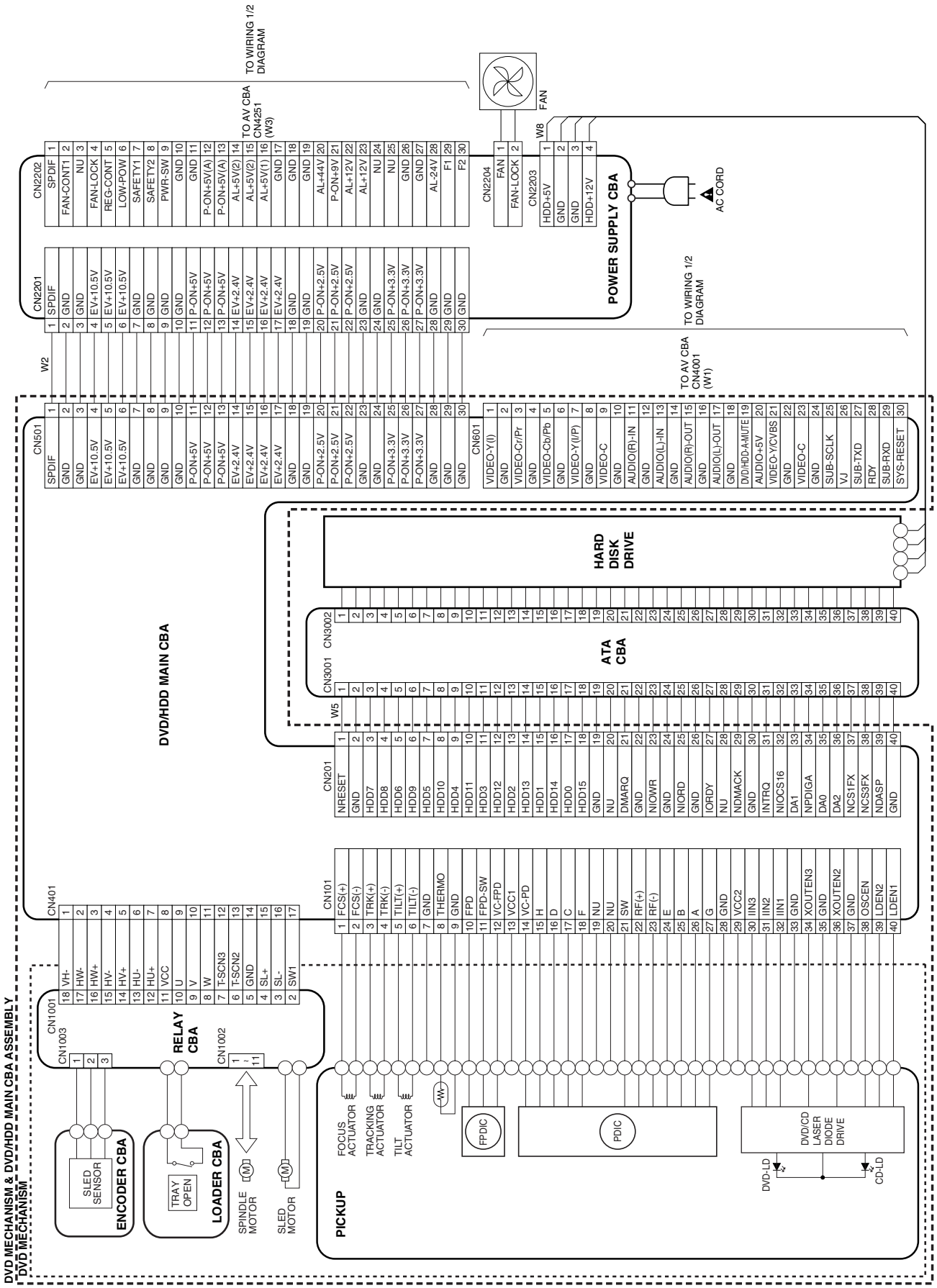


WIRING DIAGRAMS

Wiring 1/2 Diagram



Wiring 2/2 Diagram



SYSTEM CONTROL TIMING CHARTS

< VCR Section >

Mode SW: LD-SW

LD-SW Position detection A/D Input voltage Limit (Calculated voltage)	Symbol
3.76 V ~ 4.50 V (4.12 V)	EJ
4.51 V ~ 5.00 V (5.00 V)	CL
0.00 V ~ 0.25 V (0.00 V)	SB
1.06 V ~ 1.50 V (1.21 V)	TL
0.66 V ~ 1.05 V (0.91 V)	FB
1.99 V ~ 2.60 V (2.17 V)	SF
1.51 V ~ 1.98 V (1.80 V)	SM
3.20 V ~ 3.75 V (3.40 V)	AU
0.26 V ~ 0.65 V (0.44 V)	AL
4.51 V ~ 5.00 V (5.00 V)	SS
2.61 V ~ 3.19 V (2.97 V)	RS

Note:

Note: EJ → RS: Loading FWD (LM-FWD / REV “H”)
RS → EJ: Loading REV (LM-FWD / REV “L”)
Stop (A) = Loading
Stop (B) = Unloading

Note:

Symbol	Loading Status
EJ	Eject
CL	Eject ~ REW Reel
SB	REW Reel ~ Stop (B)
TL	Stop (B) ~ Brake Cancel
FB	Brake Cancel ~ FF / REW
SF	FF / REW ~ Stop (M), (FF / REW)
SM	Stop (M), (FF / REW) ~ Stop (A)
AU	Stop (A) ~ Play / REC
AL	Play / REC ~ Still / Slow
SS	Still / Slow ~ RS (REW Search)
RS	RS (REW Search)

Still/Slow Control Frame Advance Timing Chart

1) SP Mode

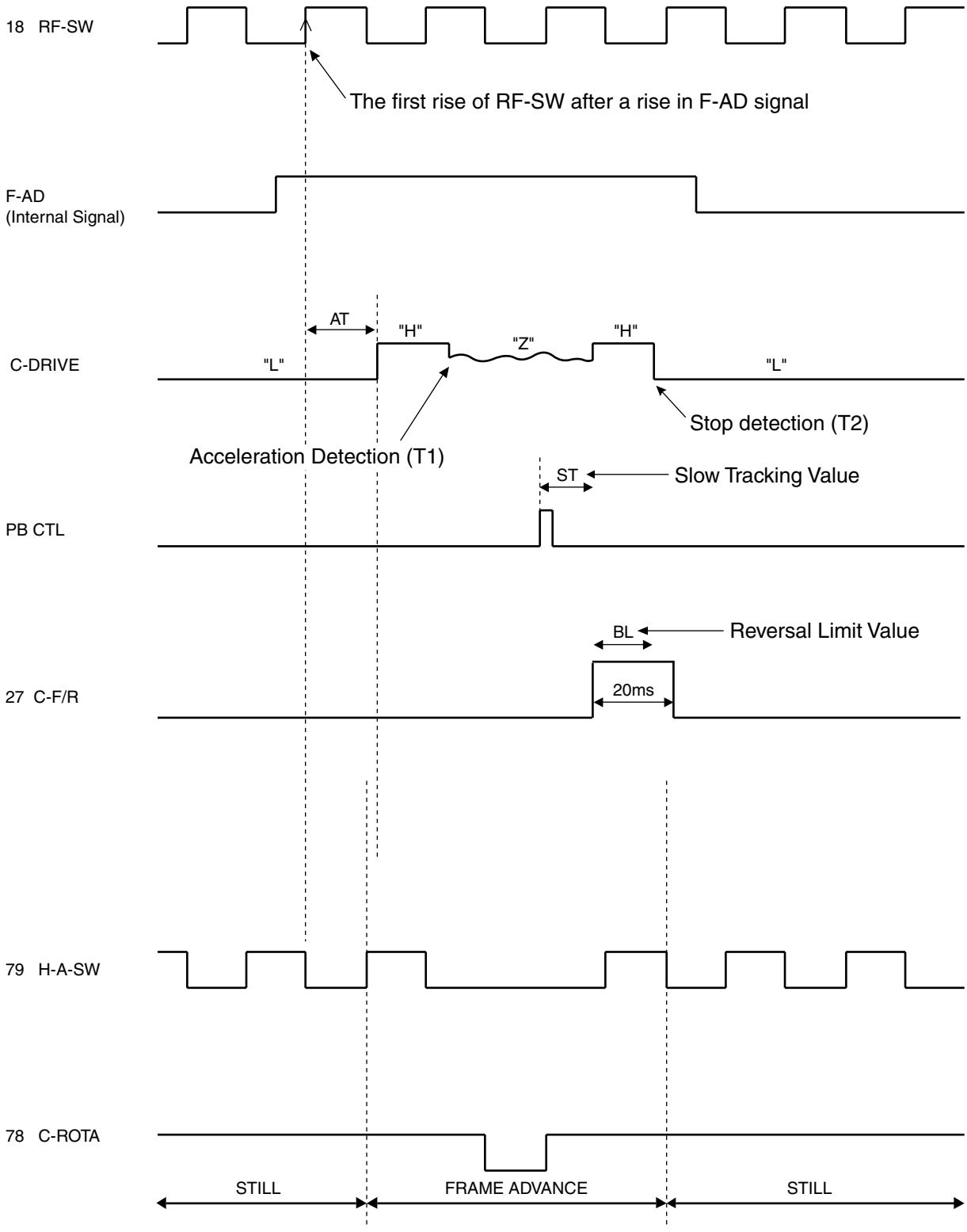


Fig. 1

2) LP/SLP Mode

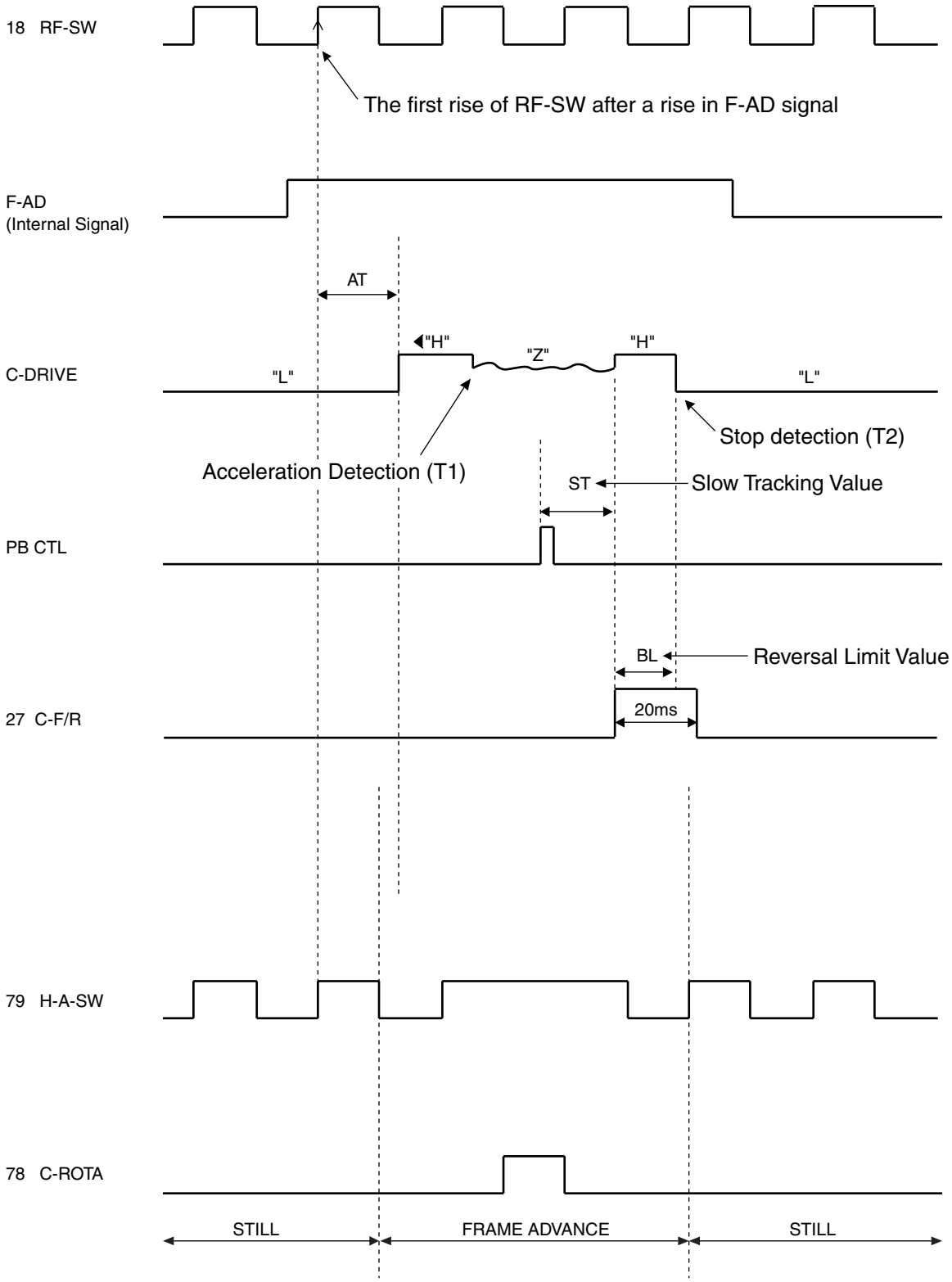


Fig. 2

1. EJECT (POWER OFF) -> CASSETTE IN (POWER ON) -> STOP(B) -> STOP(A) -> PLAY -> RS -> FS -> PLAY -> STILL -> PLAY -> STOP(A)

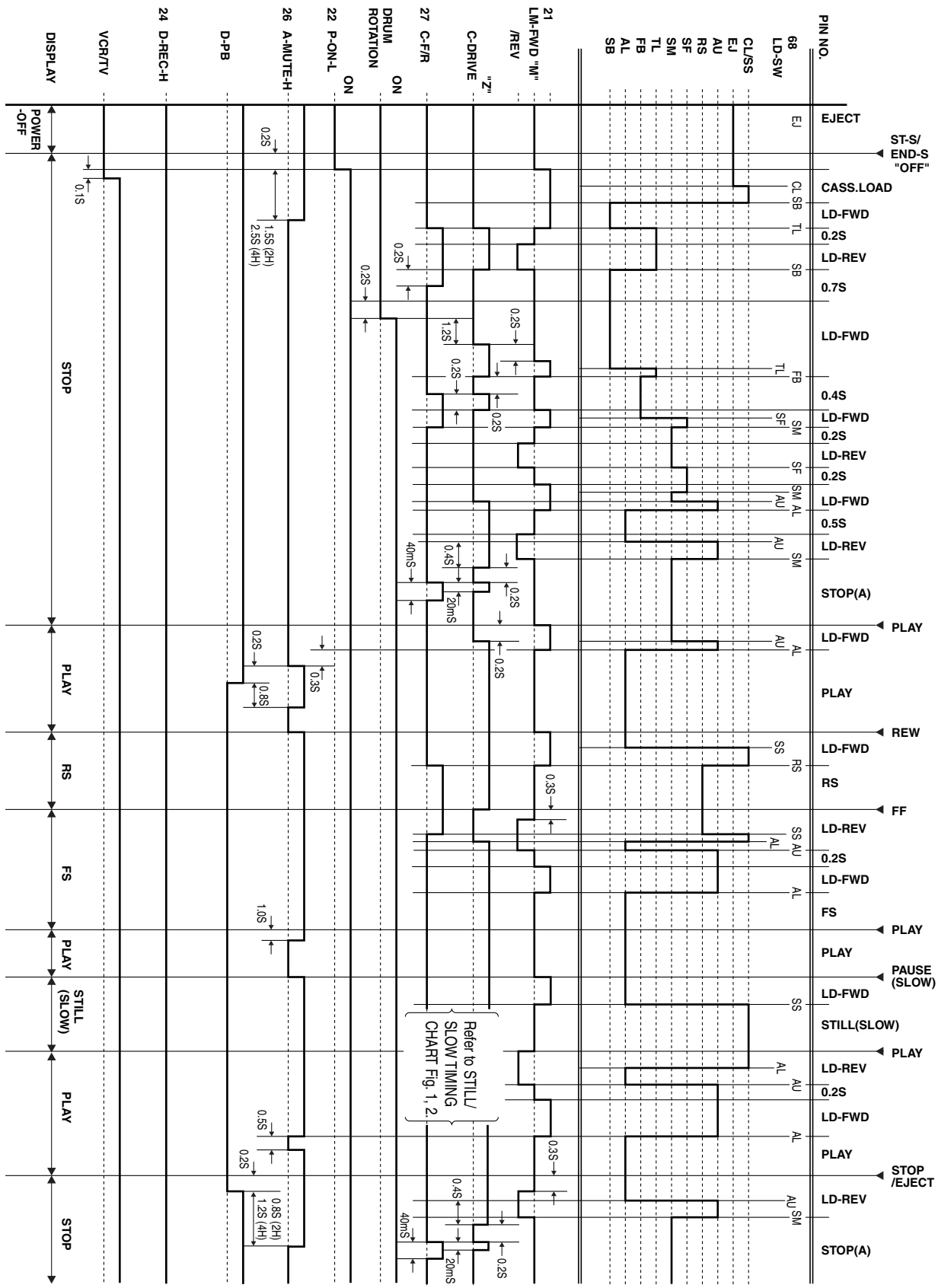


Fig. 3

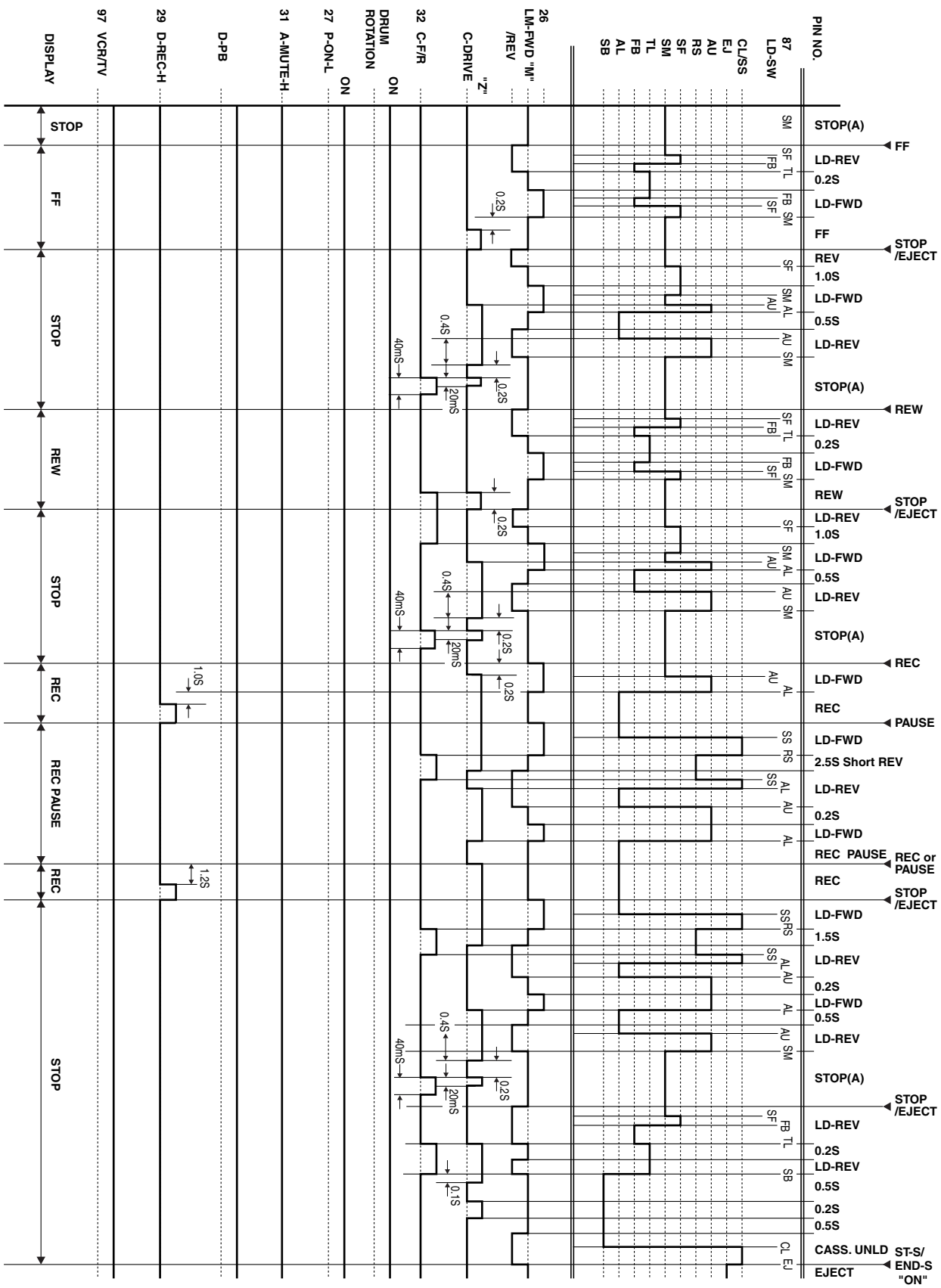
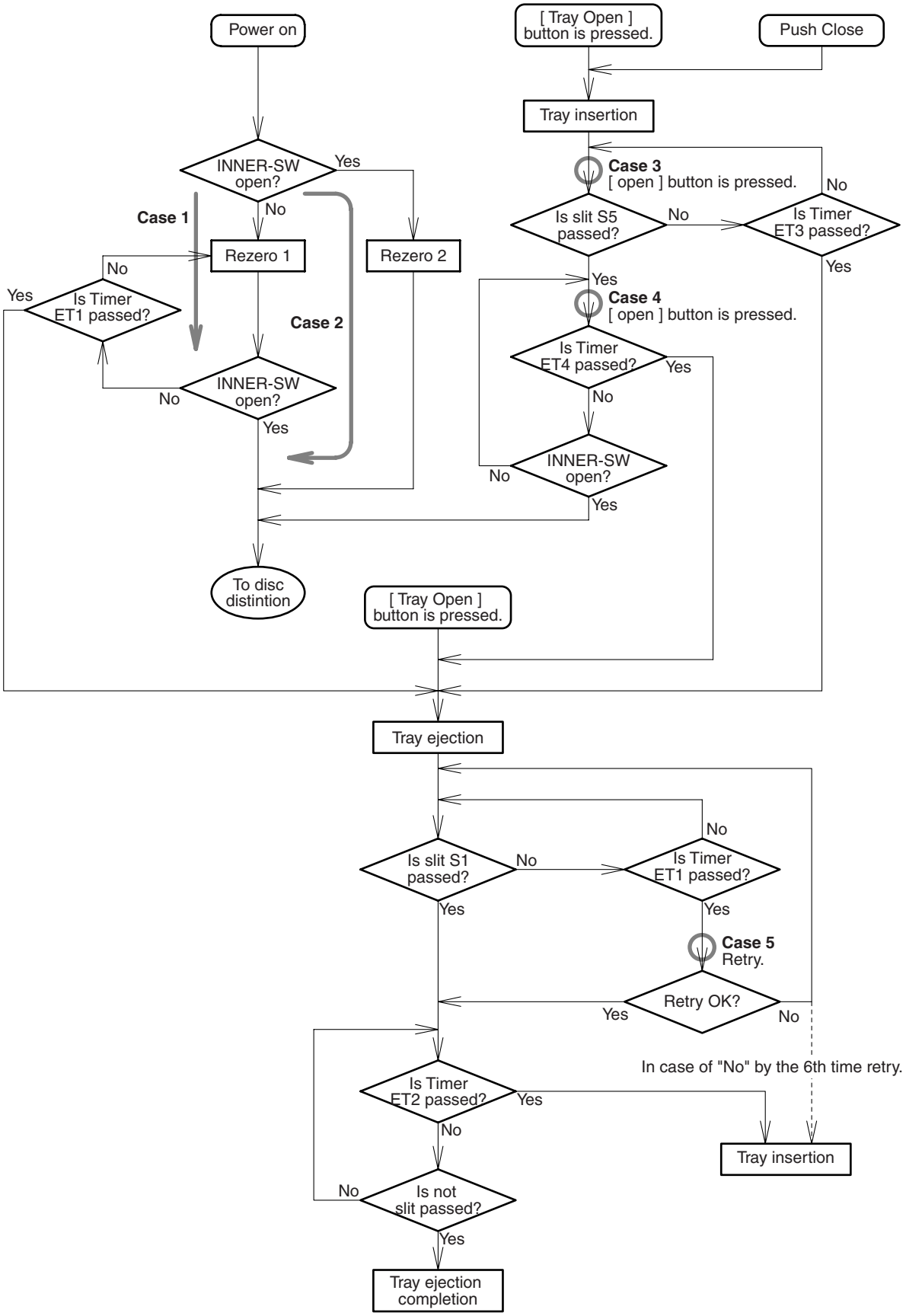

2. STOP(A) -> FF -> STOP(A) -> REW -> STOP(A) -> REC -> PAUSE -> PAUSE or REC -> STOP(A) -> EJECT
PIN NO.
87 LD-SW
CL/SS
EJ
AU
RS
SF
SM
TL
FB
AL
SB
26 LM-FWD "M" /REV
"Z" C-DRIVE
32 C-F/R
DRUM ROTATION
27 P-ON-L
31 A-MUTE-H
29 D-REC-H
D-PB
97 VCR/TV
DISPLAY
STOP
FF
STOP
REW
STOP
REC
REC PAUSE
REC
STOP
STOP(A)
FF
LD-REV
0.2S
LD-FWD
FF
STOP /EJECT
REV
1.0S
LD-FWD
0.5S
LD-REV
STOP(A)
REW
LD-REV
0.2S
LD-FWD
REW
STOP /EJECT
LD-REV
1.0S
LD-FWD
0.5S
LD-REV
STOP(A)
REC
LD-FWD
REC
PAUSE
LD-FWD
2.5S Short REV
LD-REV
0.2S
LD-FWD
REC PAUSE
REC or PAUSE
REC
STOP /EJECT
LD-FWD
1.5S
LD-REV
0.2S
LD-FWD
0.5S
LD-REV
STOP(A)
STOP /EJECT
LD-REV
0.2S
LD-REV
0.5S
0.2S
0.5S
CASS. UNLD
EJECT
ST-S/ END-S "ON"
0.2S
0.4S
40mS
20mS
1.0S
1.2S
0.1S

Fig. 4

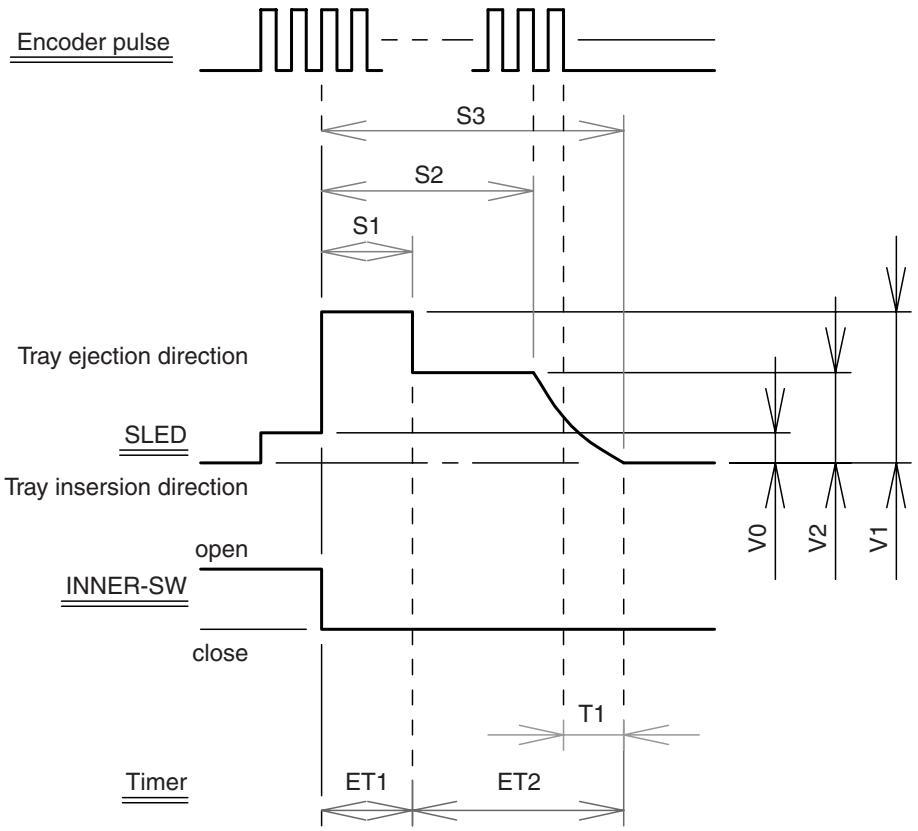
< DVD/HDD Section >



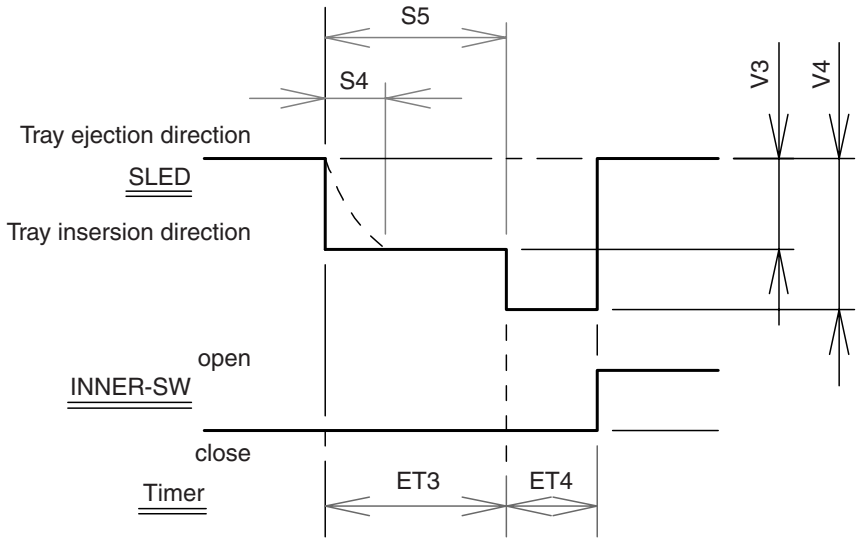
Parameter

V*: Voltage (HEX)	S*: Encoder pulse (HEX)	T*: Event timer	ET*: Error detection timer
V0: 2.0 V (00d)	S1: 300 (12c)	T1: 0.1 s	ET1: 5.0 s
V1: 4.5 V (022)	S2: 3300 (ce4)	T2: 3.0 s	ET2: 5.0 s
V2: 2.2 V (010)	S3: 3935 (f5f)	T3: 3.0 s	ET3: 3.0 s
V3: 2.4 V (013)	S4: 0 (000)	T4: 0.1 s	ET4: 3.0 s
V4: 6.0 V (030)	S5: 3000 (bb8)	T5: 0.1 s	

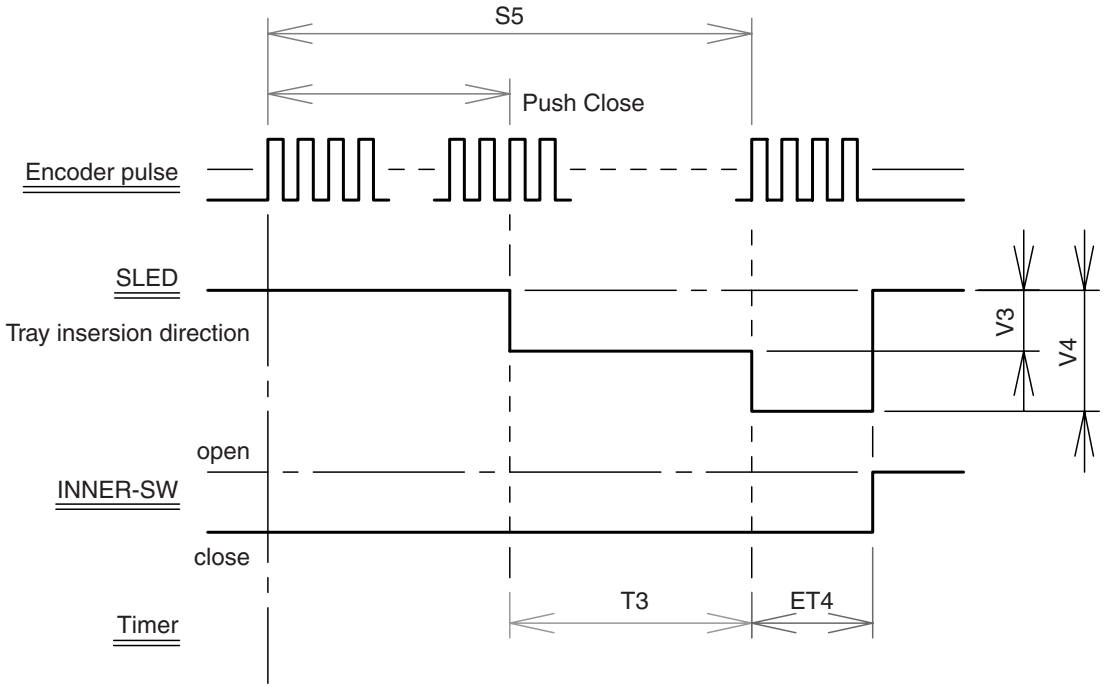
Tray open



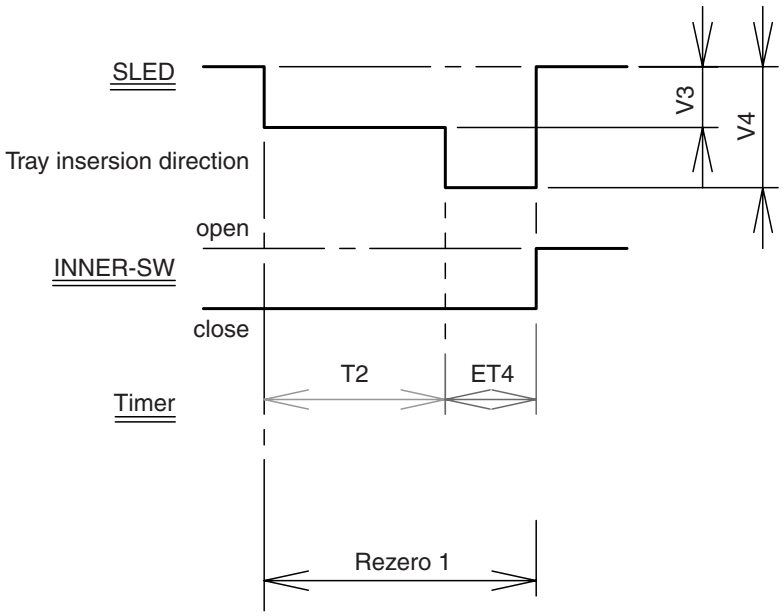
Tray close



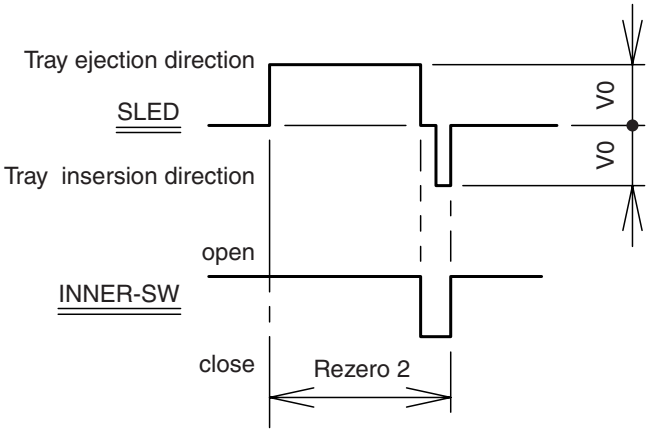
Push close



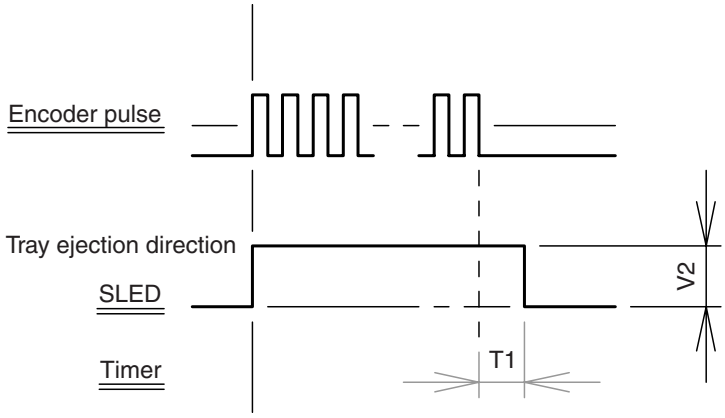
Case 1



Case 2



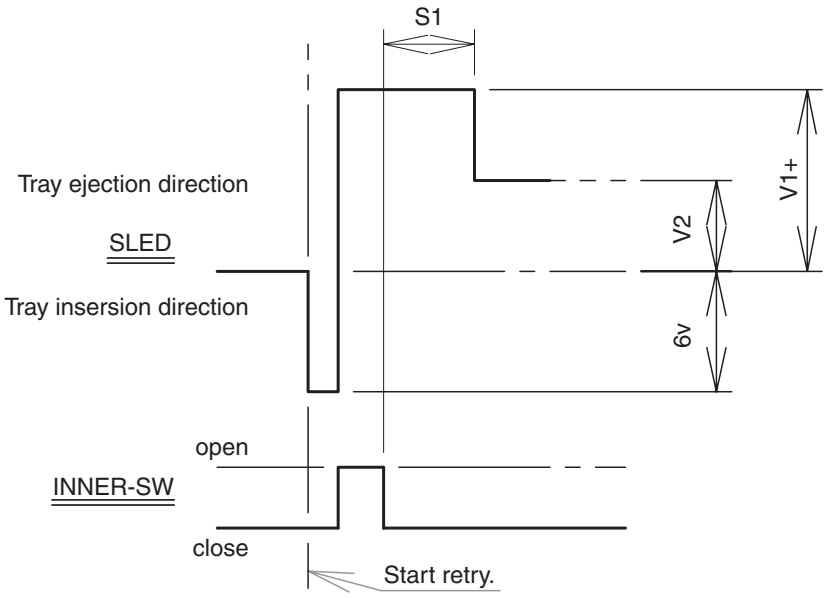
Case 3 (When [OPEN] button is pressed before the S5 passage.)



Case 4 (When [OPEN] button is pressed after the S5 passage.)

It starts opening after making closing complete once.

Case 5 (Retry.)



Retry frequency	V1+
1st time retry	6 v
2nd time retry	7 v
3rd time retry	8 v
4th time retry	9 v
5th time retry	9 v
6th time retry	9 v

IC PIN FUNCTION DESCRIPTIONS

< VCR Section >

IC4501 (MICROCONTROLLER)

"H" ≥ 4.5 V, "L" ≤ 1.0 V

Pin No.	IN/ OUT	Signal Name	Function
1	IN	S-CS	Sub Micro Controller Interface Chip Select Signal Input
2	IN	REC-SAF-SW	Recording Safety SW Detect (With Record tab = "L"/ With out Record tab = "H")
3	IN	T-REEL	Take Up Reel Rotation Signal
4	-	NU	Not Used
5	IN	REMOTE-VIDEO	Remote Control Sensor
6	IN	S-CLOCK	Communication of Clock with Micro Controller
7	IN	S-DATA-IN	Communication of Data to Micro Controller
8	OUT	S-DATA-OUT	Communication of Data from Micro Controller
9	OUT	DISPLAY-ENA	FL Display Driver IC Enable Control Output Signal
10	OUT	DISPLAY-DATA	FL Display Driver IC Data Control Output Signal
11	OUT	DISPLAY-CLK	FL Display Driver IC Clock Control Output Signal
12	IN/ OUT	IIC-BUS SDA	IIC BUS Control Data
13	OUT	IIC-BUS SCL	IIC BUS Control Clock
14	OUT	YCA-SCL	YCA IC Control Clock
15	OUT	YCA-SDA	YCA IC Control Data
16	OUT	YCA-CS	YCA IC Control Chip Select
17	-	NU	Not Used
18	OUT	RF-SW	Video Head Switching Pulse
19	OUT	D-V SYNC	Dummy V-sync Output
20	IN	RESET	System Reset Signal (Reset="L")
21	OUT	LM-FWD/ REV	Loading Motor FWD/ REV Output
22	OUT	P-ON-L	Power On Signal to Low
23	-	NU	Not Used
24	OUT	D-REC-H	Delayed Record Signal
25	OUT	Hi-Fi-H-SW	Hi-Fi Audio Head Switching Pulse
26	OUT	AUDIO-MUTE-H	Audio Mute Control Signal
27	OUT	C-F/R	Capstan Motor FWD/REV Control Signal (FWD="L"/ REV="H")
28	OUT	C-CONT	Capstan Motor Control Signal
29	OUT	D-CONT	Drum Motor Control Signal
30	-	NU	Not Used
31	-	VDD	VDD (AL+5V)
32	OUT	OSCO	Main Clock Output 14.31818MHz
33	IN	OSCI	Main Clock Input 14.31818MHz
34	-	VSS	VSS (GND)
35	-	NU	Not Used
36	-	NU	Not Used
37	IN	SXI	Operation Mode Selecting Input Signal
38	OUT	VIDEO-OUT	Composite Video Output Signal
39	-	VSS2	Vss2
40	IN	VIDEO-IN	Composite Video Input Signal
41	IN	C-SYNC	Composite Synchronized Pulse
42	-	VDD2	VDD2 (AL+5V)
43	IN	AFCC	Low Path Filter Input Signal For AFC
44	OUT	AFCLPF	Low Path Filter Output Signal For AFC
45	-	NU	Not Used
46	-	NU	Not Used
47	IN	D-PFG	Drum PG/FG Input Signal
48	-	NU	Not Used
49	IN	C-FG	Capstan Motor Rotation Detection Pulse
50	-	AFG	GND
51	OUT	VRO	Servo Standard Voltage Output

Pin No.	IN/ OUT	Signal Name	Function
52	IN	VRI	Servo Standard Voltage Input
53	-	AVss	AVSS (GND)
54	IN	CTLA	CTL Amp. AC GND
55	-	AVDD	Power Supply
56	IN/ OUT	CTL (+)	Playback/Record Control Signal (+)
57	IN/ OUT	CTL (-)	Playback/Record Control Signal (-)
58	OUT	CTL	Amp. Output Control Signal for Test Point
59	IN	Hi-Fi/NOR-IN	Audio Mode Input HiFi="L"/ Normal="H"
60	IN	POWER-SAFETY	Power Supply Safety Signal
61	-	NU	Not Used
62	IN	END-S	Tape End Position Detect Signal
63	-	NU	Not Used
64	IN	V-ENV	Video Envelope Comparator Signal
65	IN	PG-DELAY	Video Head Switching Pulse Signal Adjusted Voltage
66	IN	KEY-2	A/D Key Data Signal 2
67	IN	KEY-1	A/D Key Data Signal 1
68	IN	LD-SW	Deck Mode Position Detector Signal
69	IN	ST-S	Tape Start Position Detector Signal
70	-	NU	Not Used
71	-	NU	Not Used
72	OUT	VCR-REC-LED	VCR Rec Mode LED Signal Output
73	-	NU	Not Used
74	-	NU	Not Used
75	-	NU	Not Used
76	-	NU	Not Used
77	-	NU	Not Used
78	OUT	C-ROTA	Color Phase Rotary Changeover Signal
79	OUT	H-A-SW	Video Head Amp Switching Pulse
80	IN	H-A-COMP	Head Amp Comparator Signal

Notes:

Abbreviation for Active Level:
PWM ----- Pulse Wide Modulation
A/D -------- Analog - Digital Converter

IC4001 (SUB MICROCONTROLLER)

Pin No.	IN/ OUT	Signal Name	Function
1	IN	SUB-KEY-1	Front Button Detection 1
2	IN	SUB-KEY-2	Front Button Detection 2
3	IN	FAN-LOCK	Fan Failure Detection
4	IN	AFT	Tuner AFT Power Supply
5	-	NU	Not Used
6	-	AL+3.3V	A/D Converter Power Supply
7	-	VCC	Vcc
8	OUT	OSC2	Clock Output
9	IN	OSC1	Clock Input
10	-	GND	GND
11	-	XI	Sub Clock Input
12	-	XO	Sub Clock Output
13	-	GND	GND
14	IN	RESET	Reset Signal
15	OUT	VCR-TXD	VCR Micro Controller Interface S-DATA-IN
16	IN	VCR-RXD	VCR Micro Controller Interface S-DATA-OUT
17	OUT	VCR-CLK	VCR Micro Controller Interface S-CLOCK
18	OUT	SUB-TXD	B/E Interface
19	IN	SUB-RXD	B/E Interface
20	-	NU	Not Used
21	-	NU	Not Used
22	OUT	SYS-RESET	B/E System Reset
23	OUT	REG-CONT	Regulator Control Signal
24	OUT	VCR-CS	VCR Micro Controller Interface S-CS
25	OUT	VJ	Main Power Supply Control
26	-	NU	Not Used
27	IN	REMOTE	Remote Control Sensor
28	-	NU	Not Used
29	-	NU	Not Used
30	IN	P-DOWN	Power Failure Detection
31	OUT	DUBBING-LED	DUBBING-LED Output Signal Control

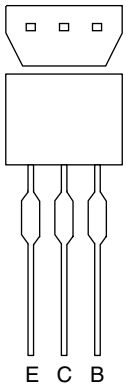
Pin No.	IN/ OUT	Signal Name	Function
32	OUT	LOW-POW	Power Consumption Control
33	IN/ OUT	SUB-SDA	IIC BUS Control Data
34	OUT	SUB-SCL	IIC BUS Control Clock
35	-	NU	Not Used
36	-	NU	Not Used
37	-	NU	Not Used
38	OUT	AUDIO-MUTE	HDD/DVD Audio Mute
39	OUT	AUDIO-SW2	Audio SW Control
40	OUT	AUDIO-SW1	Audio SW Control
41	OUT	VIDEO-SW1	Video SW Control
42	OUT	VIDEO-SW2	Video SW Control
43	OUT	VIDEO-SW3	Video SW Control
44	-	NU	Not Used
45	-	NU	Not Used
46	OUT	OUTPUT-SELECT	Output Select
47	-	NU	Not Used
48	OUT	FL-SDA	VFD Control
49	OUT	FL-STB	VFD Control
50	OUT	FL-SCL	VFD Control
51	-	NU	Not Used
52	OUT	PWR-SW	HDD/DVD Power Supply Control
53	OUT	FAN-CONT1	Fan Rotation Control
54	-	NU	Not Used
55	OUT	DVD-REC-LED	DVD-REC-LED Output Signal Control
56	OUT	HDD-REC-LED	HDD-REC-LED Output Signal Control
57	OUT	VCR-LED	VCR-LED Output Signal Control
58	OUT	DVD-LED	DVD-LED Output Signal Control
59	OUT	HDD-LED	HDD-LED Output Signal Control
60	OUT	POWER-LED	POWER-LED Output Signal Control
61	-	GND	GND
62	IN	SAFETY1	Power Supply Failure Detection 1
63	IN	SAFETY2	Power Supply Failure Detection 2
64	IN	SAFETY3	Power Supply Failure Detection 3

IC4571 (FRONT PANEL CONTROL)

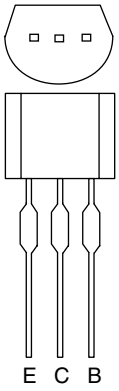
Pin No.	IN/ OUT	Signal Name	Function
1	IN	CLK	Clock Input
2	IN	STB	Serial Interface Strobe
3	-	NU	Not Used
4	-	NU	Not Used
5	-	VSS	GND
6	-	VDD	Power Supply
7	OUT	a	Segment Output
8	OUT	b	
9	OUT	c	
10	OUT	d	
11	OUT	e	
12	IN	f	
13	IN	g	
14	OUT	h	
15	-	VEE	Pull Down Level
16	OUT	i	Segment Output
17	OUT	7G	Grid Output
18		6G	
19		5G	
20		4G	
21		3G	
22		2G	
23		1G	
24	-	VDD	Power Supply
25	-	VSS	GND
26	IN	OSC	Oscillator Input
27	-	NU	Not Used
28	IN	DIN	Serial Data Input

LEAD IDENTIFICATIONS

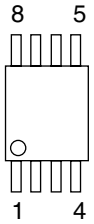
KRA103M-AT/P
KRC103M-AT/P
KTA1266-Y-AT/P
KTA1267Y-AT/P
KTA1267-GR-AT/P
KTC3193-Y-AT/P
KTC3199-(GR,BL)-AT/P



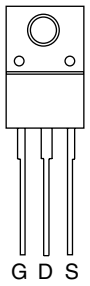
2SA1015-GR(TE2 F T)
2SC2120-(O,Y)(TE2 F T)
KTC3203-Y-AT/P
KTC3266-Y-AT/P
KTC3198-(Y)-AT/P



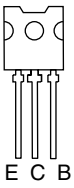
KIA4558P/P
RC4580IP
UTC4558



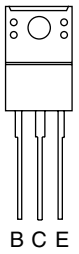
2SK3561



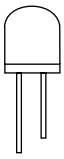
S2Y52



KTC2026-Y/P



PT204-6B-12



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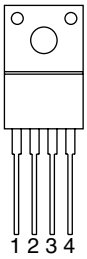
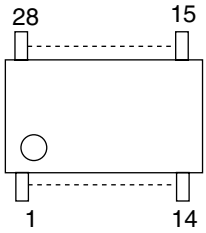


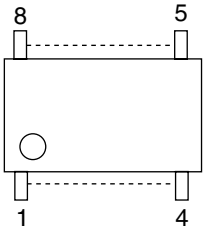
PT6313-S-TP(L)



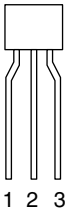
PS2561A-1-V(W)

1: Anode
2: Cathode
3: Emitter
4: Collector

MM1636XWRE

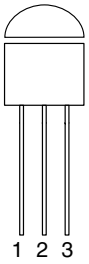


KRC102M-AT/P
KRC106M-AT/P



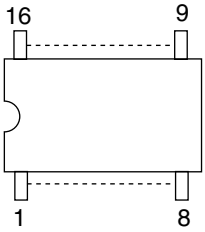
1: GND
2: OUT
3: IN

KIA431-AT/P

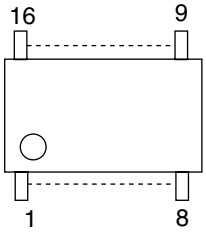


1: R
2: A
3: K

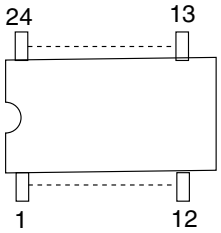
CD4052BNSR
CD4053BNSR



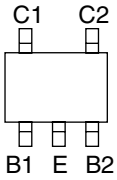
MM1637XVBE



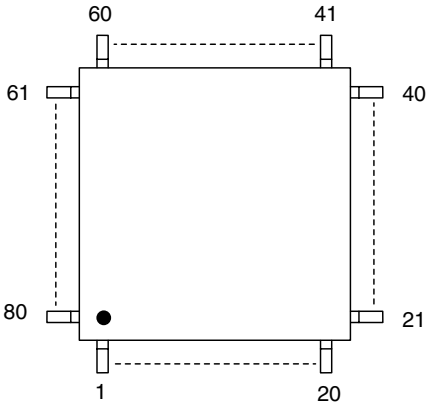
MM1697AJBE
AN5832SA-E1V



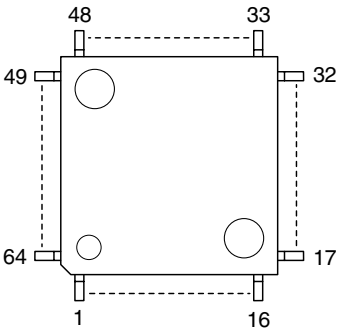
RN1511(TE85R.F)



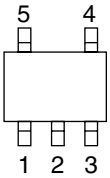
LA71205M-MPB-E
LA72670BM-MPB-E
MN101D08DET1



MN101C77A FB2



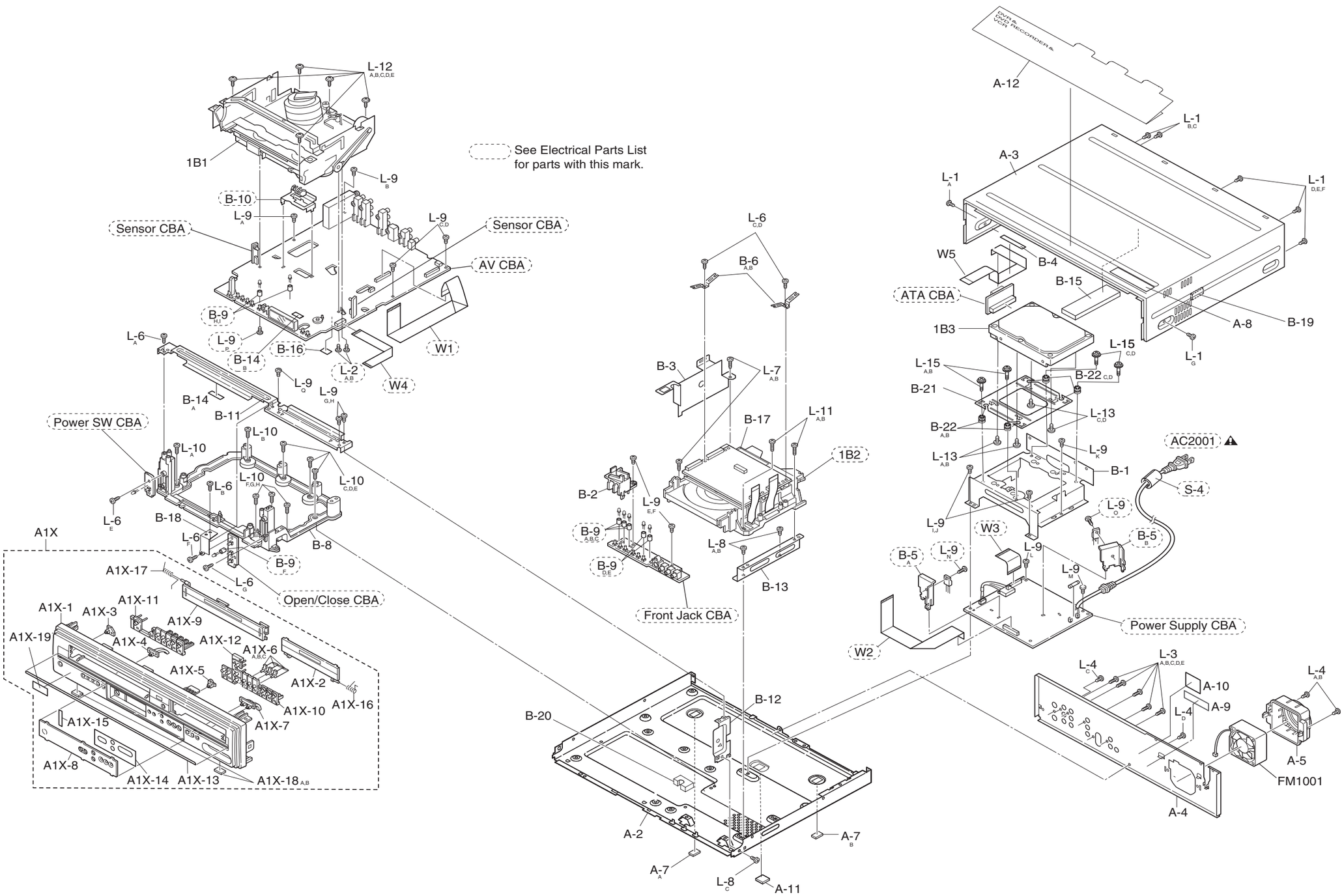
BU4219G-TR
R3112N191A-TR-FA
PST3619NR



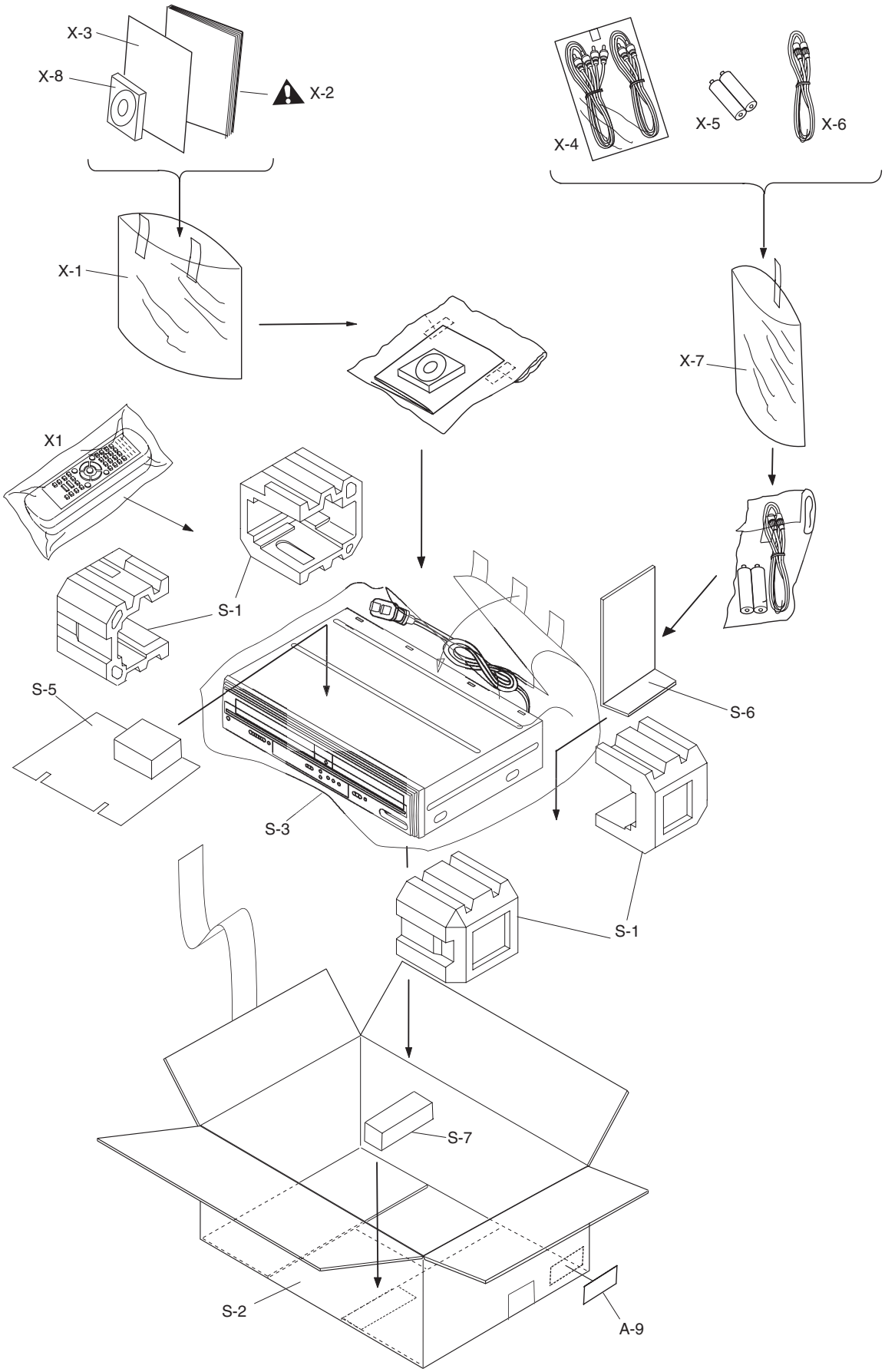
Note:
A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Reference
S: Source
G: Gate
D: Drain

EXPLODED VIEWS

Cabinet



Packing



MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE: Parts that are not assigned part numbers (---------) are not available.

Ref. No.	Description	Part No.
A1X	FRONT ASSEMBLY E4340UD	1VM321154
A1X-1	FRONT PANEL E4340UD	1VM020130
A1X-2	TRAY PANEL E4340UD	1VM220744
A1X-3	POWER LENS E4340UD	1VM321075
A1X-4	VCR REC LENS E4340UD	1VM321076
A1X-5	DUBBING LENS E4340UD	1VM321077
A1X-6A	MODE LENS E4340UD	1VM321078
A1X-6B	MODE LENS E4340UD	1VM321078
A1X-6C	MODE LENS E4340UD	1VM321078
A1X-7	HDD/DVD REC LENS E4340UD	1VM321079
A1X-8	DISPLAY WINDOW E4340UD	1VM321074
A1X-9	CASSETTE DOOR E4340UD	1VM321080
A1X-10	MODE BUTTON E4340UD	1VM220743
A1X-11	POWER BUTTON E4340UD	1VM220741
A1X-12	OPEN BUTTON E4340UD	1VM220742
A1X-13	CENTER ORNAMENT E4340UD	1VM422053
A1X-14	ADHESIVE TAPE A E4340UD	1VM422054
A1X-15	ADHESIVE TAPE B E4340UD	1VM422055
A1X-16	TRAY SPRING E6510JD	0VM416265
A1X-17	DOOR SPRING HF410UD	1VM421240
A1X18A	FOOT	0VM416122
A1X18B	FOOT	0VM416122
A1X-19	LABEL -RW/-R E6700UD	----------
A-2	MAIN CHASSIS E4340UD	1VM120193
A-3	TOP COVER E4340UD	1VM020090F
A-4	REAR PANEL E4340UD	1VM220718
A-5	FAN HOLDER E4340UD	1VM220745
A-7A	FOOT	0VM416122
A-7B	FOOT	0VM416122
A-8	LABEL TELEPHONE NO.(SYMPHONIC) E9411UD	----------
A-9	LABEL BAR CODE HB400UD	----------
A-10	LABEL RATING(D) E4340UD	----------
A-11	CENTER CUSHION E4350JD	1VM422956
A-12	TOPPER POP E4340UD	1VM322307
1B1	DECK ASSEMBLY	N2461FL
1B3	HARD DISK DRIVE HDS728080PLAT20	UHDD809HT001
B-1	HDD BRACKET E4340UD	1VM220719
B-2	MODE LENS HOLDER E4340UD	1VM422056
B-3	WIRE SHEET E4340UD	1VM321081
B-4	TAPE HIMELON(HDD) E4340UD	1VM422058
B-6A	LOADER EARTH PLATE E4340UD	1VM422059
B-6B	LOADER EARTH PLATE E4340UD	1VM422059
B-8	DECK PEDESTAL E9600UD	1VM120055B
B-11	FRONT BRACKET E9400UD	0VM204534C
B-12	FRONT BRACKET R E9400UD	0VM416269A
B-13	BRACKET R E9600UD	1VM421062
B-14A	TAPE HIMELON H9206JD	0VM413956
B-15	RUBBER CUSHION(TOP COVER) E4340UD	1VM422515
B-17	CAUTION LABEL	----------
B-18	FRONT SUPPORT E4340UD	1VM422518
B-19	SIDE CUSHION(TOP COVER) E4340UD	1VM422517
B-20	RUBBER CUSHION (MAIN CHASSIS) E4340UD	1VM422534
B-21	HDD SUPPORT (USA) E4340UD	1VM423119
B-22A	HDD RUBBER E4350JD	1VM422863
B-22B	HDD RUBBER E4350JD	1VM422863
B-22C	HDD RUBBER E4350JD	1VM422863
B-22D	HDD RUBBER E4350JD	1VM422863
FM1001	DC FAN MOTOR 2410RL-04W-S20-C01	MMEZR12NM005
L-1A	SCREW C-TIGHT M3X5 BIND HEAD +	GBCC3050
L-1B	SCREW C-TIGHT M3X5 BIND HEAD +	GBCC3050
L-1C	SCREW C-TIGHT M3X5 BIND HEAD +	GBCC3050
L-1D	SCREW C-TIGHT M3X5 BIND HEAD +	GBCC3050
L-1E	SCREW C-TIGHT M3X5 BIND HEAD +	GBCC3050
L-1F	SCREW C-TIGHT M3X5 BIND HEAD +	GBCC3050
L-1G	SCREW C-TIGHT M3X5 BIND HEAD +	GBCC3050
L-3A	SCREW B-TIGHT M3X8 BIND HEAD+	GBHB3080
L-3B	SCREW B-TIGHT M3X8 BIND HEAD+	GBHB3080
L-3C	SCREW B-TIGHT M3X8 BIND HEAD+	GBHB3080
L-3D	SCREW B-TIGHT M3X8 BIND HEAD+	GBHB3080
L-3E	SCREW B-TIGHT M3X8 BIND HEAD+	GBHB3080
L-4A	SCREW S-TIGHT M3*5 BIND+ 3*5 BIND+	GBHS3050
L-4B	SCREW S-TIGHT M3*5 BIND+ 3*5 BIND+	GBHS3050
L-4C	SCREW S-TIGHT M3*5 BIND+ 3*5 BIND+	GBHS3050
L-4D	SCREW S-TIGHT M3*5 BIND+ 3*5 BIND+	GBHS3050
L-6A	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
L-6B	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
L-6C	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
L-6D	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
L-6E	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
L-6F	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
L-6G	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
L-7A	SCREW P-TIGHT M3*12 BIND+	GBJP3120
L-7B	SCREW P-TIGHT M3*12 BIND+	GBJP3120
L-8A	SCREW M3X5 HEAD+ BIND S-TIGHT	GBJS3050
L-8B	SCREW M3X5 HEAD+ BIND S-TIGHT	GBJS3050
L-8C	SCREW M3X5 HEAD+ BIND S-TIGHT	GBJS3050
L-9A	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L-9B	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L-9C	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L-9D	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L-9E	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L-9F	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L-9G	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L-9H	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L-9I	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L-9J	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L-9K	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L-9L	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L-9M	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L-9Q	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L-10A	SCREW S-TIGHT M3X8 BIND HEAD+	GBJS3080
L-10B	SCREW S-TIGHT M3X8 BIND HEAD+	GBJS3080
L-10C	SCREW S-TIGHT M3X8 BIND HEAD+	GBJS3080
L-10D	SCREW S-TIGHT M3X8 BIND HEAD+	GBJS3080
L-10E	SCREW S-TIGHT M3X8 BIND HEAD+	GBJS3080
L-10F	SCREW S-TIGHT M3X8 BIND HEAD+	GBJS3080
L-10G	SCREW S-TIGHT M3X8 BIND HEAD+	GBJS3080

Ref. No.	Description	Part No.
L-10H	SCREW S-TIGHT M3X8 BIND HEAD+	GBJS3080
L-11A	SCREW S-TIGHT M3X10 BIND HEAD+	GBJS3100
L-11B	SCREW S-TIGHT M3X10 BIND HEAD+	GBJS3100
L-12A	SCREW P-TIGHT M3*10 WASHERHEAD+	GCJP3100
L-12B	SCREW P-TIGHT M3*10 WASHERHEAD+	GCJP3100
L-12C	SCREW P-TIGHT M3*10 WASHERHEAD+	GCJP3100
L-12D	SCREW P-TIGHT M3*10 WASHERHEAD+	GCJP3100
L-12E	SCREW P-TIGHT M3*10 WASHERHEAD+	GCJP3100
L-13A	INCH SCREW 3.4X5 +	SAC3T050
L-13B	INCH SCREW 3.4X5 +	SAC3T050
L-13C	INCH SCREW 3.4X5 +	SAC3T050
L-13D	INCH SCREW 3.4X5 +	SAC3T050
L-15A	HDD SCREW E4350JD	1VM422864
L-15B	HDD SCREW E4350JD	1VM422864
L-15C	HDD SCREW E4350JD	1VM422864
L-15D	HDD SCREW E4350JD	1VM422864
PACKING		
S-1	STYROFOAM E4340UD	1VM120275G
S-2	GIFT BOX CARTON E4340UD	1VM321155
S-3	SET BAG E7708UA	0DM400731D
S-5	TOP PAD E4340UD	1VM321484
S-6	SIDE PAD E4350JD	1VM422963
S-7	BOTTOM STYROFORM E4350JD	1VM422986
ACCESSORIES		
X1	REMOTE CONTROL UNIT NB300UD	NB300UD
X-1	ACCESSORY BAG E4340UD	1VM422755
X-2⚠	OWNERS MANUAL E4340UD	1VMN21086
X-3	QUICK GUIDE E4340UD	1VMN21087
X-4	AV CORD TSCKA-Y/RW100	WPZ0102TM015
X-5	DRY BATTERY R6P/2S	XB0M451T0001
X-6	RF CABLE DC95M95M001	WPZ0901CAB01
X-7	BAG REMOCON N9430UD(90*250)	0VM411198
X-8	DVD-R BLANK MEDIA DVD-R (8X)4.7GB	KDDZZZZMB001
W5	FFC ATA-MAIN 40P 40PIN/ TL265MM	WX1E4370-001

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTES:

1. Parts that are not assigned part numbers (---------) are not available.
2. Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25% D.....±0.5% F.....±1%

G.....±2% J.....±5% K.....±10%

M.....±20% N.....±30% Z.....+80/-20%

DVD MECHANISM & DVD/HDD MAIN CBA ASSEMBLY

Ref. No.	Description	Part No.
1B2	DVD MECHANISM & DVD/HDD MAIN CBA ASSEMBLY	N78FZBUN

AV ASSEMBLY

Ref. No.	Description	Part No.
	AV ASSEMBLY Consists of the following:	1VSA11855
	AV CBA (AV PCB A) POWER SW (AV PCB B) SENSOR CBA	---------- ---------- 1VSA10910

AV CBA

Ref. No.	Description	Part No.
	AV CBA (AV PCB A) Consists of the following:	----------
	CAPACITORS	
C4002	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4003	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C4006	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C4007	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C4009	CHIP CERAMIC CAP.(1608) B K 0.033μF/25V	CHD1EK30B333
C4010	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4013	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C4014	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C4015	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C4016	ELECTROLYTIC CAP. 0.33μF/50V M	CE1JMASDLR33
C4017	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4019	ELECTROLYTIC CAP. 4.7μF/50V M	CE1JMASDL4R7
C4020	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C4021	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C4022	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C4023	ELECTROLYTIC CAP. 10μF/16V M	CE1CMASDL100
C4024	ELECTROLYTIC CAP. 0.33μF/50V M	CE1JMASDLR33
C4025	ELECTROLYTIC CAP. 3.3μF/50V M	CE1JMASDL3R3
C4026	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C4027	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223
C4028	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C4029	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C4030	CHIP CERAMIC CAP.(1608) B K 0.033μF/25V	CHD1EK30B333
C4031	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C4032	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C4033	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C4040	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4048	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4049	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C4050	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4051	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4052	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4053	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4054	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C4055	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4056	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4057	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4058	ELECTROLYTIC CAP. 10μF/16V M	CE1CMASDL100
C4059	ELECTROLYTIC CAP. 10μF/16V M	CE1CMASDL100
C4060	ELECTROLYTIC CAP. 10μF/16V M	CE1CMASDL100
C4061	ELECTROLYTIC CAP. 10μF/16V M	CE1CMASDL100
C4062	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4063	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4065	ELECTROLYTIC CAP. 4.7μF/25V M	CE1EMASDL4R7
C4066	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C4067	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C4068	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4069	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C4070	ELECTROLYTIC CAP. 4.7μF/25V M	CE1EMASDL4R7
C4071	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C4072	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C4074	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4075	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C4076	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4077	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4079	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C4085	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C4086	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C4087	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C4088	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C4091	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4092	ELECTROLYTIC CAP. 100μF/10V M	CE1AMASDL101
C4093	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C4094	ELECTROLYTIC CAP. 4.7μF/50V M	CE1JMASDL4R7
C4095	ELECTROLYTIC CAP. 4.7μF/50V M	CE1JMASDL4R7
C4096	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C4097	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C4101	ELECTROLYTIC CAP. 10μF/16V M	CE1CMASDL100
C4102	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4103	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C4104	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4105	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C4106	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C4107	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4108	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4109	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4110	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C4111	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C4112	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C4113	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C4114	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103

Ref. No.	Description	Part No.
C4115	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4116	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C4117	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C4118	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C4119	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C4120	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C4121	ELECTROLYTIC CAP. 10μF/16V M	CE1CMASDL100
C4122	CHIP CERAMIC CAP.(1608) CH J 270pF/50V	CHD1JJ3CH271
C4123	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C4124	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C4126	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4127	ELECTROLYTIC CAP. 10μF/16V M	CE1CMASDL100
C4128	CHIP CERAMIC CAP.(1608) CH J 270pF/50V	CHD1JJ3CH271
C4129	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C4130	ELECTROLYTIC CAP. 10μF/16V M	CE1CMASDL100
C4131	ELECTROLYTIC CAP. 10μF/16V M	CE1CMASDL100
C4134	ELECTROLYTIC CAP. 4.7μF/50V M	CE1JMASDL4R7
C4135	ELECTROLYTIC CAP. 4.7μF/50V M	CE1JMASDL4R7
C4138	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4151	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4155	ELECTROLYTIC CAP. 47μF/6.3V M	CE0KMASDL470
C4161	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C4162	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C4163	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4164	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4165	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C4166	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C4167	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C4170	CHIP CERAMIC CAP.(1608) CH J 22pF/50V	CHD1JJ3CH220
C4171	CHIP CERAMIC CAP. CH J 18pF/50V	CHD1JJ3CH180
C4172	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C4173	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
If C4174 is 0.015μF, then IC4002 is R3112N191A-TR-FA or BU4219G-TR.		
C4174	CHIP CERAMIC CAP.(1608) B K 0.015μF/50V	CHD1JK30B153
IC4002	VOLTAGE DETECT R3112N191A-TR-FA or	QSZBA0TRC021
	RESET IC BU4219G-TR	QSZBA0TRM090
If C4174 is 0.1μF, then IC4002 is IC-PST3619NR.		
C4174	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
IC4002	SYSTEM RESET IC IC-PST3619NR	QSZBA0TMM151
C4251	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C4252	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4253	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C4254	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4255	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C4256	ELECTROLYTIC CAP. 10μF/16V M	CE1CMASDL100
C4257	ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASDL221
C4259	ELECTROLYTIC CAP. 220μF/25V M	CE1EMASDL221
C4260	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C4261	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C4262	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C4263	PCB JUMPER D0.6-P5.0	JW5.0T
C4301	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C4302	CHIP CERAMIC CAP.(1608) CH J 390pF/50V	CHD1JJ3CH391
C4303	PCB JUMPER D0.6-P5.0	JW5.0T
C4304	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C4305	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C4307	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C4308	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C4309	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4310	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C4311	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C4312	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C4313	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0

Ref. No.	Description	Part No.
C4314	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C4315	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C4316	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C4317	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C4318	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C4319	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4320	CERAMIC CAP.(AX) Y M 0.01μF/16V	CCA1CMT0Y103
C4321	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4324	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4327	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C4328	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C4329	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4330	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C4331	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4332	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C4333	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4336	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4339	CHIP CERAMIC CAP.(1608) B K 0.047μF/25V	CHD1EK30B473
C4340	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C4341	CHIP CERAMIC CAP.(1608) B K 0.047μF/25V	CHD1EK30B473
C4342	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4343	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C4346	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4401	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4404	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4405	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C4406	ELECTROLYTIC CAP. 33μF/6.3V M H7	CE0KMAVSL330
C4407	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4408	CHIP CERAMIC CAP.(1608) B K 0.012μF/50V	CHD1JK30B123
C4409	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C4410	CHIP CERAMIC CAP.(1608) B K 2700pF/50V	CHD1JK30B272
C4411	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C4412	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C4413	CHIP CERAMIC CAP.(1608) B K 6800pF/50V	CHD1JK30B682
C4422	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C4423	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C4424	CERAMIC CAP. B K 470pF/500V	CCD2JKS0B471
C4425	FILM CAP.(P) 0.018μF/100V J	CMA2AJS00183
C4438	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C4439	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C4440	ELECTROLYTIC CAP. 0.1μF/50V M H7	CE1JMAVSLR10
C4441	ELECTROLYTIC CAP. 0.1μF/50V M H7	CE1JMAVSLR10
C4448	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C4449	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C4451	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMAVSL470
C4452	ELECTROLYTIC CAP. 0.1μF/50V M H7	CE1JMAVSLR10
C4453	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C4454	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C4455	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C4456	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C4457	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C4458	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4459	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C4460	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C4461	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4462	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4465	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C4466	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C4467	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223
C4470	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C4471	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C4472	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C4473	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103

Ref. No.	Description	Part No.
C4474	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C4475	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C4476	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C4483	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4485	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C4502	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C4505	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4506	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C4507	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C4508	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223
C4509	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMASSL221
C4513	CHIP CERAMIC CAP.(1608) CH D 10pF/50V	CHD1JD3CH100
C4521	ELECTROLYTIC CAP. 47μF/25V M H7	CE1EMAVSL470
C4522	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C4523	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C4525	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C4527	CHIP CERAMIC CAP.(1608) B K 0.047μF/25V	CHD1EK30B473
C4529	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223
C4530	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C4531	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C4532	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C4533	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C4534	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4535	ELECTROLYTIC CAP. 22μF/10V M H7	CE1AMAVSL220
C4536	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C4537	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C4539	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHD1JZ30F103
C4540	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHD1JZ30F103
C4543	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C4544	ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C4550	ELECTROLYTIC CAP. 22μF/50V M	CE1JMASDL220
C4551	ELECTROLYTIC CAP. 22μF/50V M	CE1JMASDL220
C4562	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHD1JZ30F103
C4563	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHD1JZ30F103
C4574	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C4584	ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C4585	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4601	ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C4602	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4603	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C4605	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C4606	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
	CONNECTORS	
CN4001	FMN CONNECTOR TOP 30P 30FMN-BTRK-A(LF)(SN)	JCFNG30JG020
CN4002	FMN CONNECTOR SIDE 20P 20FMN-STRK-A(LF)(SN)	JCFNG20JG022
CN4004	PH CONNECTOR (WHITE) TOP 4P B4B-PH-K-S(LF)	J3PHC04JG017
CN4251	FMN CONNECTOR TOP 30P 30FMN-BTRK-A(LF)(SN)	JCFNG30JG020
	DIODES	
D4002	ZENER DIODE DZ-3.0BSBT265	NDTB0DZ3R0BS
D4006	ZENER DIODE DZ-6.2BSAT265	NDTA0DZ6R2BS
D4251	ZENER DIODE DZ-33BSBT265	NDTB00DZ33BS
D4252	ZENER DIODE DZ-18BSBT265	NDTB00DZ18BS
D4258	ZENER DIODE DZ-10BSBT265	NDTB00DZ10BS
D4259	RECTIFIER DIODE 1N4005	NDQZ001N4005
D4260	RECTIFIER DIODE 1N4005	NDQZ001N4005
D4261	RECTIFIER DIODE 1N4005	NDQZ001N4005
D4262	PCB JUMPER D0.6-P10.0	JW10.0T
D4265	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D4266	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D4267	PCB JUMPER D0.6-P10.0	JW10.0T

Ref. No.	Description	Part No.
D4268	RECTIFIER DIODE 1N4005	NDQZ001N4005
D4269	RECTIFIER DIODE 1N4005	NDQZ001N4005
D4270	RECTIFIER DIODE 1N4005	NDQZ001N4005
D4271	ZENER DIODE DZ-5.6BSCT265	NDTC0DZ5R6BS
D4272	RECTIFIER DIODE 1N4005	NDQZ001N4005
D4274	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D4501	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D4555	LED MIE-534A2	NPZZM1E534A2
D4564	LED(RED) 1254IT	NPQZ0012541T
	ICS	
IC4001	8BIT MICRO-COMPUTER MN101C77A FB2	QSZAC0RMS043
If IC4002 is R3112N191A-TR-FA or BU4219G-TR, then C4174 is 0.015μF.		
IC4002	VOLTAGE DETECT R3112N191A-TR-FA or	QSZBA0TRC021
	RESET IC BU4219G-TR	QSZBA0TRM090
C4174	CHIP CERAMIC CAP.(1608) B K 0.015μF/50V	CHD1JK30B153
If IC4002 is IC-PST3619NR, then C4174 is 0.1μF.		
IC4002	SYSTEM RESET IC IC-PST3619NR	QSZBA0TMM151
C4174	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
IC4003	IC MTS DECORDER AN5832SA-E1V	QSZBA0TMS003
IC4005	VIDEO SWITCH MM1697AJBE	QSZBA0TMM150
IC4006	IC SWITCHING CD4052BNSR	NSZBA0TTY091
IC4007	IC OP AMP RC4580IP	NSZBA0STY173
IC4008	IC ANALOG MULTIPLEXER CD4053BNSR	NSZBA0TTY093
IC4009	DRIVER FOR DVD MM1636XWRE	QSZBA0TMM108
IC4010	DRIVER FOR DVD MM1637XVBE	QSZBA0TMM102
IC4011	IC OP AMP KIA4558P/P	NSZBA0SJY035
IC4251	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
IC4301	IC Y/C/A LA71205M-MPB-E	QSZBA0RSY037
IC4451	IC HIFI LA72670BM-MPB-E	QSZBA0RSY039
IC4501	SYSCON IC MN101D08DET1	QSZAB0RMS041
IC4571	VFD DRIVER/CONTROLLER IC PT6313-S-TP(L)	NSZBA0TG2007
	COILS	
L4001	CHOKE COIL 22μH-K	LLBD00PKV021
L4002	PCB JUMPER D0.6-P5.0	JW5.0T
L4003	PCB JUMPER D0.6-P5.0	JW5.0T
L4004	RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L4005	CHIP BEAD MMZ1608R102CT	XL06001TE002
L4008	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
L4009	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
L4010	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
L4014	INDUCTOR(100μH K) LAP02TA101K	LLAXKATTU101
L4015	INDUCTOR(0.47μH K) LAP02TAR47K	LLAXKATTUR47
L4251	RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L4252	RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L4303	INDUCTOR 47μH-K-26T	LLAXKATTU470
L4304	RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L4305	PCB JUMPER D0.6-P5.0	JW5.0T
L4421	INDUCTOR 47μH-K-5FT	LLARKBSTU470
L4422	PCB JUMPER D0.6-P5.0	JW5.0T
L4423	INDUCTOR 22μH-K-26T	LLAXKATTU220
L4451	PCB JUMPER D0.6-P5.0	JW5.0T
L4501	INDUCTOR 10μH-K-26T	LLAXKATTU100
L4502	RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L4503	INDUCTOR 12μH-K-26T	LLAXKATTU120
L4601	INDUCTOR(100μH K) LAP02TA101K	LLAXKATTU101
	TRANSISTORS	
Q4001	TRANSISTOR KRC102M-AT/P	NQSZKRC102MP
Q4002	TRANSISTOR KTA1267Y-AT/P	NQSYKTA1267P

Ref. No.	Description	Part No.
Q4003	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q4004	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q4005	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q4006	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q4013	TRANSISTOR KTA1266-Y-AT/P	NQSYKTA1266P
Q4020	TRANSISTOR KTA1267Y-AT/P	NQSYKTA1267P
Q4021	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q4022	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q4023	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q4025	TRANSISTOR KTA1267Y-AT/P	NQSYKTA1267P
Q4251	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q4252	TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q4256	TRANSISTOR KTC3203-Y-AT/P	NQSYKTC3203P
Q4257	TRANSISTOR KTC3198-Y-AT/P	NQSYKTC3198P
Q4258	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q4264	TRANSISTOR 2SC2120-Y(TE2 F T)	QQSY2SC2120F
Q4301	TRANSISTOR KTA1266-Y-AT/P	NQSYKTA1266P
Q4302	TRANSISTOR KTC3193-Y-AT/P	NQSYKTC3193P
Q4303	TRANSISTOR KTC3193-Y-AT/P	NQSYKTC3193P
Q4421	TRANSISTOR KTA1266-Y-AT/P	NQSYKTA1266P
Q4422	TRANSISTOR KTC3203-Y-AT/P	NQSYKTC3203P
Q4425	RES. BUILT-IN TRANSISTOR KRA103M-AT/P	NQSZ0KRA103M
Q4426	CHIP TRANSISTOR RN1511(TE85R.F)	QQ2Z0RN1511F
Q4501	TRANSISTOR KRC106M-AT/P	NQSZKRC106MP
Q4502	TRANSISTOR KTA1267Y-AT/P	NQSYKTA1267P
Q4506	PHOTO TRANSISTOR PT204-6B-12	NPWZT2046B12
Q4508	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q4509	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q4510	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q4561	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
	RESISTORS	
R4003	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R4004	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R4005	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R4007	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R4008	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R4011	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R4012	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R4013	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R4014	CHIP RES. 1/10W J 180k Ω	RRXAJR5Z0184
R4016	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R4017	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R4018	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R4019	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R4021	CHIP RES. 1/10W F 220 Ω	RRXAFR5H2200
R4022	CHIP RES. 1/10W F 200 Ω	RRXAFR5H2000
R4023	CHIP RES. 1/10W F 200 Ω	RRXAFR5H2000
R4024	CHIP RES. 1/10W F 200 Ω	RRXAFR5H2000
R4025	CHIP RES. 1/10W F 240 Ω	RRXAFR5H2400
R4026	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R4031	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R4032	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R4035	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R4047	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R4048	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R4049	CHIP RES. 1/10W J 470k Ω	RRXAJR5Z0474
R4050	CHIP RES. 1/10W F 18k Ω	RRXAFR5H1802
R4051	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R4052	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R4053	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R4054	CHIP RES. 1/10W F 18k Ω	RRXAFR5H1802
R4055	CHIP RES. 1/10W J 470k Ω	RRXAJR5Z0474

Ref. No.	Description	Part No.
R4058	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4061	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4062	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R4064	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R4065	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4066	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4067	CHIP RES. 1/10W J 910 Ω	RRXAJR5Z0911
R4068	CHIP RES. 1/10W J 820 Ω	RRXAJR5Z0821
R4069	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R4076	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R4077	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R4080	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R4083	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R4084	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R4085	PCB JUMPER D0.6-P5.0	JW5.0T
R4086	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R4087	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R4088	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R4095	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R4096	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R4101	CHIP RES. 1/10W J 2.7k Ω	RRXAJR5Z0272
R4107	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4117	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R4118	CHIP RES. 1/10W J 68k Ω	RRXAJR5Z0683
R4119	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R4120	CHIP RES. 1/10W J 68k Ω	RRXAJR5Z0683
R4121	CHIP RES. 1/10W F 8.2k Ω	RRXAFR5H8201
R4122	CHIP RES. 1/10W F 13k Ω	RRXAFR5H1302
R4123	CHIP RES. 1/10W F 13k Ω	RRXAFR5H1302
R4124	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R4125	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R4126	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R4127	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R4128	CHIP RES. 1/10W F 8.2k Ω	RRXAFR5H8201
R4129	CHIP RES. 1/10W F 13k Ω	RRXAFR5H1302
R4130	CHIP RES. 1/10W F 13k Ω	RRXAFR5H1302
R4131	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R4132	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R4133	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R4134	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R4135	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4136	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4137	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R4139	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4140	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4141	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R4142	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R4146	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R4147	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R4148	CARBON RES. 1/4W J 75 Ω	RCX4JATZ0750
R4149	CARBON RES. 1/4W J 75 Ω	RCX4JATZ0750
R4151	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4152	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R4153	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R4155	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4156	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R4157	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R4158	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R4161	CHIP RES. 1/10W J 150 Ω	RRXAJR5Z0151
R4162	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R4163	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R4164	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R4165	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473

Ref. No.	Description	Part No.
R4166	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R4167	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R4168	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R4169	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R4170	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R4171	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R4173	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4174	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4175	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4178	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R4180	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4181	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4182	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4183	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R4184	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R4185	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R4187	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4188	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4190	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4191	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4192	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4193	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R4194	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4195	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4196	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R4198	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R4199	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R4200	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R4203	CHIP RES. 1/10W J 820k Ω	RRXAJR5Z0824
R4204	CHIP RES. 1/10W J 470k Ω	RRXAJR5Z0474
R4205	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R4206	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R4207	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R4208	CHIP RES. 1/10W J 33 Ω	RRXAJR5Z0330
R4214	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R4215	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R4218	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R4219	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4220	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R4221	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R4224	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4226	CHIP RES. 1/10W J 180k Ω	RRXAJR5Z0184
R4227	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R4228	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4231	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R4232	CHIP RES. 1/10W J 820 Ω	RRXAJR5Z0821
R4233	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R4235	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4236	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R4237	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R4238	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R4239	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R4240	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R4241	CHIP RES. 1/10W J 68k Ω	RRXAJR5Z0683
R4242	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R4243	CHIP RES. 1/10W J 68k Ω	RRXAJR5Z0683
R4244	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R4245	CHIP RES. 1/10W J 33 Ω	RRXAJR5Z0330
R4251	PCB JUMPER D0.6-P5.0	JW5.0T
R4252	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R4253	CHIP RES. 1/10W F 100 Ω	RRXAFR5H1000
R4254	CHIP RES. 1/10W F 1.5k Ω	RRXAFR5H1501
R4255	CHIP RES. 1/10W F 4.7k Ω	RRXAFR5H4701

Ref. No.	Description	Part No.
R4256	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R4257	CHIP RES. 1/10W J 220k Ω	RRXAJR5Z0224
R4258	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R4259	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R4260	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R4261	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R4263	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R4264	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R4265	CHIP RES. 1/10W J 150 Ω	RRXAJR5Z0151
R4267	CHIP RES. 1/10W J 820 Ω	RRXAJR5Z0821
R4268	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R4273	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R4274	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R4276	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R4283	PCB JUMPER D0.6-P5.0	JW5.0T
R4285	PCB JUMPER D0.6-P5.0	JW5.0T
R4289	CHIP RES. 1/10W J 2.7k Ω	RRXAJR5Z0272
R4301	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R4302	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R4304	CHIP RES. 1/10W J 1.2k Ω	RRXAJR5Z0122
R4306	CHIP RES. 1/10W J 3.9M Ω	RRXAJR5Z0395
R4307	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R4308	CHIP RES. 1/10W J 82k Ω	RRXAJR5Z0823
R4309	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4310	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R4311	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R4312	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R4313	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R4314	CHIP RES. 1/10W J 680k Ω	RRXAJR5Z0684
R4316	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4317	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R4321	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R4322	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R4323	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R4324	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R4327	CHIP RES. 1/10W F 1.2k Ω	RRXAFR5H1201
R4401	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R4402	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R4409	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R4410	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R4411	CHIP RES. 1/10W J 330k Ω	RRXAJR5Z0334
R4412	CHIP RES. 1/10W J 150 Ω	RRXAJR5Z0151
R4413	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R4414	CHIP RES. 1/10W J 910 Ω	RRXAJR5Z0911
R4415	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4416	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R4421	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4422	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R4424	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R4425	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R4426	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R4451	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R4452	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R4453	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R4454	CHIP RES. 1/10W J 24k Ω	RRXAJR5Z0243
R4455	CHIP RES. 1/10W J 51k Ω	RRXAJR5Z0513
R4456	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R4457	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R4458	CHIP RES. 1/10W J 2.7k Ω	RRXAJR5Z0272
R4459	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R4463	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R4464	CHIP RES. 1/10W J 24k Ω	RRXAJR5Z0243
R4465	CHIP RES. 1/10W J 51k Ω	RRXAJR5Z0513

Ref. No.	Description	Part No.
R4466	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R4468	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R4469	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R4470	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R4471	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R4484	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R4485	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R4486	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R4487	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R4488	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R4489	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R4502	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R4503	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R4504	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R4506	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R4511	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R4517	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R4518	CHIP RES. 1/10W J 220k Ω	RRXAJR5Z0224
R4521	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4523	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4524	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R4525	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R4526	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4527	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4528	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R4531	CARBON RES. 1/4W G 4.7k Ω	RCX4GATZ0472
R4532	CHIP RES. 1/10W F 1.5k Ω	RRXAFR5H1501
R4533	CHIP RES. 1/10W F 22k Ω	RRXAFR5H2202
R4534	CHIP RES. 1/10W F 470 Ω	RRXAFR5H4700
R4535	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R4536	CHIP RES. 1/10W F 3.6k Ω	RRXAFR5H3601
R4537	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R4540	CHIP RES. 1/10W J 390k Ω	RRXAJR5Z0394
R4541	CHIP RES. 1/10W J 390k Ω	RRXAJR5Z0394
R4542	CARBON RES. 1/4W J 270 Ω	RCX4JATZ0271
R4543	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R4544	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R4545	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R4546	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R4572	CHIP RES. 1/10W J 68k Ω	RRXAJR5Z0683
R4573	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R4574	CHIP RES. 1/10W J 3.9k Ω	RRXAJR5Z0392
R4585	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R4586	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4587	CHIP RES. 1/10W J 1.2k Ω	RRXAJR5Z0122
R4588	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R4592	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R4593	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R4600	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4601	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4602	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4603	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R4605	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R4606	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4607	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4608	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R4615	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R4618	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R4620	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R4621	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R4622	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R4623	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R4640	CHIP RES. 1/10W J 3.9k Ω	RRXAJR5Z0392

Ref. No.	Description	Part No.
R4641	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4642	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R4643	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R4644	CHIP RES. 1/10W J 560 Ω	RRXAJR5Z0561
R4646	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R4647	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R4648	CHIP RES. 1/10W J 560 Ω	RRXAJR5Z0561
R4650	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R4651	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R4652	CHIP RES. 1/10W J 560 Ω	RRXAJR5Z0561
R4654	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R4662	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4665	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R4670	CARBON RES. 1/4W J 10 Ω	RCX4JATZ0100
R4671	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R4673	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
	SWITCHES	
SW4002	TACT SWITCH KSM0614B	SST0101HH013
SW4003	TACT SWITCH KSM0614B	SST0101HH013
SW4505	TACT SWITCH KSM0614B	SST0101HH013
SW4508	TACT SWITCH KSM0614B	SST0101HH013
SW4509	TACT SWITCH KSM0614B	SST0101HH013
SW4511	LEAF SWITCH MXS01830MVP0	SSC0101MCE03
SW4512	ROTARY MODE SWITCH SSS-53MD	SSR0106KB003
SW4515	TACT SWITCH KSM0614B	SST0101HH013
SW4516	TACT SWITCH KSM0614B	SST0101HH013
	MISCELLANEOUS	
B-9H	BUSH LED(F) H3700UD	0VM409508
B-9I	BUSH LED(F) H3700UD	0VM409508
B-10	SHIELD ASSEMBLY H9200UD	0VM413279A
B-14B	TAPE HIMELON H9206JD	0VM413956
B-16	DOUBLE SIDE TAPE HB200UD	0VM412870
FL4502	VFD 7-BT-306NS	TVFD1C0FT050
JC6	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
JK4001	S TYPE JACK(2P) MDC-021V-AA LF	JYEL040LY004
JK4002	RCA JACK MSP-213V3-324-B NI L	JYRL030LY025
JK4003	RCA JACK MSP-213V1-324-B NI L	JXRL030LY104
JK4004	RCA JACK MSP-213V1-652-B NI L	JXRL030LY116
JK4006	RCA JACK MSP-382V-12 NILF	JXRL020LY120
JK4007	RCA JACK(BLACK) MSP-281V2-B	JXRL010LY062
JP4001	PCB JUMPER D0.6-P5.0	JW5.0T
JP4002	PCB JUMPER D0.6-P5.0	JW5.0T
JP4003	PCB JUMPER D0.6-P5.0	JW5.0T
JP4004	PCB JUMPER D0.6-P5.0	JW5.0T
JP4005	PCB JUMPER D0.6-P5.0	JW5.0T
JP4006	PCB JUMPER D0.6-P5.0	JW5.0T
JP4007	PCB JUMPER D0.6-P5.0	JW5.0T
JP4015	PCB JUMPER D0.6-P10.0	JW10.0T
JP4016	PCB JUMPER D0.6-P10.0	JW10.0T
JP4017	PCB JUMPER D0.6-P13.5	JW13.5T
JP4019	PCB JUMPER D0.6-P5.0	JW5.0T
JP4020	PCB JUMPER D0.6-P5.0	JW5.0T
JP4021	PCB JUMPER D0.6-P5.0	JW5.0T
L-2A	SCREW P-TIGHT M3X8 BIND HEAD+	GBCP3080
L-2B	SCREW P-TIGHT M3X8 BIND HEAD+	GBCP3080
L-9P	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
RM4501	REMOTE RECEIVER MIM-93M6DKF	USESJRSUNT01
TP4301	PCB JUMPER D0.6-P6.0	JW6.0T
TP4302	PCB JUMPER D0.6-P6.0	JW6.0T
TP4452	PCB JUMPER D0.6-P18.5	JW18.5T
TP4502	PCB JUMPER D0.6-P15.0	JW15.0T
TP4506	PCB JUMPER D0.6-P16.5	JW16.5T

Ref. No.	Description	Part No.
TP4507	PCB JUMPER D0.6-P5.0	JW5.0T
TP4508	PCB JUMPER D0.6-P9.0	JW9.0T
TP4513	PCB JUMPER D0.6-P6.0	JW6.0T
TU4001	TUNER UNIT TMZH2-037A	UTUNNTUAL044
VR4501	CARBON P.O.T. VZ067TL1 B104 PB(F)	VRCB104HH014
W1	FFC AV-MAIN 30P 30PIN/ TL350MM	WX1E4340-001
W6	PARALLEL WIRE 4P AWG26#2651/ 126MM	WX1E4340-006
X4001	CERAMIC RESONETOR CSTLS8M00G56-B0	FY0805PMR002
X4002	XTAL 32.768kHz (+10/-20PPM	FXC323LLN001
X4301	XTAL 3.579545MHz(20PPM)	FXC355LLN004

POWER SW CBA

Ref. No.	Description	Part No.
	POWER SW CBA (AV PCB B) Consists of the following:	----------
	DIODE	
D4001	LED(RED) 1254IT	NPQZ0012541T
	SWITCH	
SW4001	TACT SWITCH KSM0614B	SST0101HH013

SENSOR CBA

Ref. No.	Description	Part No.
	SENSOR CBA Consists of the following:	1VSA10910
	TRANSISTORS	
Q503	PHOTO TRANSISTOR PT204-6B-12	NPWZT2046B12
Q504	PHOTO TRANSISTOR PT204-6B-12	NPWZT2046B12

PW/SW ASSEMBLY

Ref. No.	Description	Part No.
	PW/SW ASSEMBLY Consists of the following:	1VSA11828
	POWER SUPPLY CBA (PW/SW-A) FRONT JACK CBA (PW/SW-B) OPEN/CLOSE CBA (PW/SW-C)	--------- --------- ---------

POWER SUPPLY CBA

Ref. No.	Description	Part No.
	POWER SUPPLY CBA (PW/SW-A) Consists of the following:	---------
	CAPACITORS	
C2001⚠	LINE ACROSS CAP 0.22μF/275V	CT2E224DC016
C2002⚠	SAFETY CAP. 3300pF/250V	CCD2EMA0E332
C2101	CERAMIC CAP. F Z 0.01μF/500V	CCD2JZP0F103
C2102	CERAMIC CAP. F Z 0.01μF/500V	CCD2JZP0F103
C2103	ELECTROLYTIC CAP. 470μF/200V	CA2D471S6032
C2109	CERAMIC CAP. HR 1000pF/2KV	CCD3DKP0R102
C2112	FILM CAP.(P) 0.082μF/50V J	CA1J823MS029
C2113	FILM CAP.(P) 0.01μF/50V J	CA1J103MS029
C2121	FILM CAP.(P) 0.0068μF/50V J	CA1J682MS029
C2201	ELECTROLYTIC CAP. 22μF/50V M	CE1JMASDL220
C2202	ELECTROLYTIC CAP. 47μF/50V M	CE1JMASDL470
C2203	ELECTROLYTIC CAP. 3300μF/6.3V SL	CE0KMZADL332
C2204	ELECTROLYTIC CAP. 2200μF/25V SL	CE1EMZADL222
C2205	ELECTRIC CAP. 4700μF/10V	CE1AMZADL472
C2206	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C2207	ELECTROLYTIC CAP. 220μF/16V M	CE1CMASDL221
C2209	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C2210	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASDL471
C2211	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C2212	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C2213	ELECTROLYTIC CAP. 470μF/25V M	CE1EMASDL471
C2214	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C2216	ELECTRIC CAP. 4700μF/10V	CE1AMZADL472
C2217	ELECTROLYTIC CAP. 2200μF/10V SL	CE1AMZADL222
C2218	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASDL471
C2219	ELECTROLYTIC CAP. 100μF/10V M	CE1AMASDL101
C2220	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C2222	CERAMIC CAP. B K 470pF/500V	CCD2JKP0B471
C2224	CERAMIC CAP. B K 470pF/500V	CCD2JKP0B471
C2226	FILM CAP.(P) 0.0068μF/50V J	CA1J682MS029
C2230	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C2235	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C2236	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C2237	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C2238	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C2239	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C2240	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C2241	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C2338	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C2403	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C2404	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C2407	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C2408	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
	CONNECTORS	
CN2201	FMN CONNECTOR TOP 30P 30FMN-BTRK-A(LF)(SN)	JCFNG30JG020
CN2202	FMN CONNECTOR TOP 30P 30FMN-BTRK-A(LF)(SN)	JCFNG30JG020
CN2204	PH CONNECTOR (WHITE) TOP 2P B2B-PH-K-S(LF)	J3PHC02JG017
	DIODES	
D2101	DIODE 1N5397-B	NDLZ001N5397
D2102	DIODE 1N5397-B	NDLZ001N5397
D2103	DIODE 1N5397-B	NDLZ001N5397
D2104	DIODE 1N5397-B	NDLZ001N5397
D2107	ZENER DIODE DZ-22BSBT265	NDTB00DZ22BS
D2108	ZENER DIODE DZ-33BSBT265	NDTB00DZ33BS
D2109	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2110	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2111	ZENER DIODE DZ-33BSBT265	NDTB00DZ33BS
D2112	ZENER DIODE DZ-5.6BSBT265	NDTB0DZ5R6BS
D2113	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2201	RECTIFIER DIODE BA157	NDQZ000BA157
D2202	RECTIFIER DIODE BA157	NDQZ000BA157
D2203	SCHOTTKY BARRIER DIODE SB340	NDQZ000SB340
D2204	SCHOTTKY BARRIER DIODE SB390	NDQZ000SB390
D2205	SCHOTTKY BARRIER DIODE SB390	NDQZ000SB390
D2206	SCHOTTKY BARRIER DIODE SB340	NDQZ000SB340
D2207	SCHOTTKY BARRIER DIODE SB340	NDQZ000SB340
D2208	SCHOTTKY BARRIER DIODE SB140	NDQZ000SB140
D2209	SCHOTTKY BARRIER DIODE SB140	NDQZ000SB140
D2210	RECTIFIER DIODE BA157	NDQZ000BA157
D2212	ZENER DIODE DZ-16BSBT265	NDTB00DZ16BS
D2213	ZENER DIODE DZ-6.8BSBT265	NDTB0DZ6R8BS
D2215	ZENER DIODE DZ-16BSBT265	NDTB00DZ16BS
D2216	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2217	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2218	ZENER DIODE DZ-39BSBT265	NDTB00DZ39BS
D2219	SWITCHING DIODE 1SS400	QD1Z001SS400
D2220	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2221	SCHOTTKY BARRIER DIODE SB390	NDQZ000SB390
D2223	SCHOTTKY BARRIER DIODE SB140	NDQZ000SB140
D2224	SWITCHING DIODE 1SS400	QD1Z001SS400

Ref. No.	Description	Part No.
D2225	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2226	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2227	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2229	PCB JUMPER D0.6-P10.0	JW10.0T
D2230	PCB JUMPER D0.6-P10.0	JW10.0T
D2231	ZENER DIODE DZ-22BSBT265	NDTB00DZ22BS
D2238	DIODE 1N5397-B	NDLZ001N5397
D2244	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2245	ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS
D2246	ZENER DIODE DZ-10BSBT265	NDTB00DZ10BS
D2256	ZENER DIODE DZ-6.8BSBT265	NDTB0DZ6R8BS
D2277	DIODE 1N5397-B	NDLZ001N5397
D2278	DIODE 1N5397-B	NDLZ001N5397
D2279	DIODE 1N5397-B	NDLZ001N5397
D2283	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2284	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2401	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2405	RECTIFIER DIODE 1N4005	NDQZ001N4005
D2406	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2408	SWITCHING DIODE 1SS400	QD1Z001SS400
D2409	SWITCHING DIODE 1SS400	QD1Z001SS400
D2410	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2411	SWITCHING DIODE 1SS400	QD1Z001SS400
D2412	SWITCHING DIODE 1SS400	QD1Z001SS400
D2413	SWITCHING DIODE 1SS400	QD1Z001SS400
	ICS	
IC2101	PHOTOCOUPLER PS2561A-1(W)	QPEWPS2561A1
IC2201	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
IC2204	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
IC2401	VOLTAGE REGULATOR PQ070XF01SZH	QSZBA0SSH054
IC2402	VOLTAGE REGULATOR PQ070XF01SZH	QSZBA0SSH054
	COILS	
L2001	LINEFILTER TLF24HB2730R6	LLBG00ZTU039
L2104	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
L2201	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
L2202	PCB JUMPER D0.6-P5.0	JW5.0T
L2204	RADIAL LEADED INDUCTOR LHL13NB100K	LLC100KTU026
L2205	POWER INDUCTORS TWKBNP-180K	LLC180KKV007
L2206	CHOKE COIL LHL08TB220K(22UH)	LLARKPSTU220
L2208	POWER INDUCTORS TWKBNP-180K	LLC180KKV007
	TRANSISTORS	
Q2101	MOS FET 2SK3561	QFWZ02SK3561
Q2102	TRANSISTOR 2SC2120-Y(TE2 F T)	QQSY2SC2120F
Q2203	TRANSISTOR(PB FREE) KTC2026-Y/P	NQEYKTC2026P
Q2204	TRANSISTOR S2Y52(FUNAI Q H)	QQWZ00S2Y52Q
Q2205	TRANSISTOR 2SC2120-Y(TE2 F T)	QQSY2SC2120F
Q2209	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q2214	TRANSISTOR(PB FREE) KTC2026-Y/P	NQEYKTC2026P
Q2215	TRANSISTOR KTA1267-GR-AT/P	NQS1KTA1267P
Q2221	TRANSISTOR 2SA1015-GR(TE2 F T)	QQS12SA1015F
Q2226	TRANSISTOR 2SA1015-GR(TE2 F T)	QQS12SA1015F
Q2227	TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q2228	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q2338	TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q2339	TRANSISTOR KTC3266-Y-AT/P	NQSYKTC3266P
Q2341	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q2415	TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
	RESISTORS	
R2001	CARBON RES. 1/2W J 3.3M Ω	RCX2335DP002
R2101	CEMENT RESISTOR 5W J 1.2 Ω H 10MM	RW051R2PAK10
R2103	CARBON RES. 1/4W J 910k Ω	RCX4JATZ0914
R2104	CARBON RES. 1/4W J 910k Ω	RCX4JATZ0914

Ref. No.	Description	Part No.
R2105	CARBON RES. 1/4W J 910k Ω	RCX4JATZ0914
R2106	CARBON RES. 1/4W J 910k Ω	RCX4JATZ0914
R2108	METAL OXIDE FILM RES. 2W J 0.68 Ω	RN02R68DP004
R2109	CARBON RES. 1/6W J 150 Ω	RCX6JATZ0151
R2113	CARBON RES. 1/6W J 220 Ω	RCX6JATZ0221
R2114	CARBON RES. 1/6W J 220 Ω	RCX6JATZ0221
R2115	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R2116	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R2117	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R2118	PCB JUMPER D0.6-P5.0	JW5.0T
R2119	CARBON RES. 1/6W J 180 Ω	RCX6JATZ0181
R2120	PCB JUMPER D0.6-P5.0	JW5.0T
R2213	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R2215	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R2216	METAL OXIDE FILM RES. 2W J 82 Ω	RN02820DP004
R2217	METAL OXIDE FILM RES. 3W J 1k Ω	RN03102DP005
R2218	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2219	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2220	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R2221	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R2225	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R2226	CHIP RES.(1608) RLC16KR470J	RRX8R47KE001
R2227	PCB JUMPER D0.6-P5.0	JW5.0T
R2228	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R2229	CHIP RES. 1/10W F 300 Ω	RRXAFR5H3000
R2230	CHIP RES. 1/10W F 1.0k Ω	RRXAFR5H1001
R2232	CHIP RES. 1/10W F 1.0k Ω	RRXAFR5H1001
R2233	CHIP RES. 1/10W J 390 Ω	RRXAJR5Z0391
R2234	CHIP RES. 1/10W J 680 Ω	RRXAJR5Z0681
R2235	CHIP RES. 1/10W F 2k Ω	RRXAFR5H2001
R2236	CARBON RES. 1/4W J 1.1k Ω	RCX4JATZ0112
R2237	CARBON RES. 1/4W J 1.1k Ω	RCX4JATZ0112
R2238	CARBON RES. 1/4W J 1.1k Ω	RCX4JATZ0112
R2239	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R2240	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R2241	CARBON RES. 1/4W J 1.1k Ω	RCX4JATZ0112
R2248	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R2249	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R2251	CHIP RES. 1/10W J 470k Ω	RRXAJR5Z0474
R2252	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R2273	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R2279	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R2280	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R2282	CHIP RES. 1/10W J 220k Ω	RRXAJR5Z0224
R2283	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R2291	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R2292	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R2293	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R2294	CARBON RES. 1/4W J 2k Ω	RCX4JATZ0202
R2326	CHIP RES. 1/10W J 10 Ω	RRXAJR5Z0100
R2327	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R2328	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R2331	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R2332	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R2333	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R2334	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R2335	CARBON RES. RD1/2S101JTA	RCX2JATZ0101
R2336	PCB JUMPER D0.6-P10.0	JW10.0T
R2337	CHIP RES. 1/10W J 10 Ω	RRXAJR5Z0100
R2338	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R2339	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R2340	CHIP RES. 1/10W J 33 Ω	RRXAJR5Z0330
R2341	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000

Ref. No.	Description	Part No.
R2401	CHIP RES. 1/10W J 2.7k Ω	RRXAJR5Z0272
R2402	CHIP RES. 1/10W F 1.5k Ω	RRXAFR5H1501
R2403	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R2404	CHIP RES. 1/10W F 15k Ω	RRXAFR5H1502
R2405	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R2406	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R2407	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R2408	CHIP RES. 1/10W F 220 Ω	RRXAFR5H2200
R2409	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R2410	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R2411	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
MISCELLANEOUS		
AC2001⚠	AC CORD PB8B2F9110A-055	WAC0162LW004
B-5A	POWER HEATSINK E4340UD	1VM422057
B-5B	POWER HEATSINK E4340UD	1VM422057
F2001⚠	FUSE (1.6A/250V) SIC 1.6A 250V (ROHS)	PEG20C0W3001
FH2101	FUSE HOLDER MSF-015	XH01Z00LY001
FH2102	FUSE HOLDER MSF-015	XH01Z00LY001
JC2217	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
L-9N	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L-9O	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
S-4	HOLDER EAS(H9410UD) MAKER NO.EM150DR	0VM415877
T2001⚠	SWITCHING TRANS 5746	LTT00CPKT194
W2	FFC PW-MAIN 30P 30PIN/ TL280MM	WX1E4340-002
W7	PARALLEL WIRE 5P AWG26#2651/ 146MM	WX1E4340-007
W8	WIRE ASSEMBLY 4P AWG22/ 105MM	WX1E4340-008

FRONT JACK CBA

Ref. No.	Description	Part No.
	FRONT JACK CBA (PW/SW-B) Consists of the following:	--------
CONNECTOR		
CN2501	FMN CONNECTOR SIDE 20P 20FMN-STRK-A(LF)(SN)	JCFNG20JG022
DIODES		
D2501	LED(RED) 1254IT	NPQZ0012541T
D2502	LED(RED) 1254IT	NPQZ0012541T
D2503	LED(AMBER YELLOW) LTL1CHKYKNN	NPQZ1CHKYKNN
D2504	LED(BLUE) LTL1CHCBK2-F	NPQ3L1CHCBK2
D2505	LED(GREEN) LTL1CHJGTNN	NPQZ1CHJGTNN
TRANSISTORS		
Q2501	TRANSISTOR KRC102M-AT/P	NQSZKRC102MP
Q2502	TRANSISTOR KRC102M-AT/P	NQSZKRC102MP
Q2503	TRANSISTOR KRC102M-AT/P	NQSZKRC102MP
Q2504	TRANSISTOR KRC102M-AT/P	NQSZKRC102MP
Q2505	TRANSISTOR KRC102M-AT/P	NQSZKRC102MP
Q2506	TRANSISTOR KRC102M-AT/P	NQSZKRC102MP
RESISTORS		
R2501	CHIP RES. 1/10W J 150 Ω	RRXAJR5Z0151
R2502	CHIP RES. 1/10W J 150 Ω	RRXAJR5Z0151
R2503	CHIP RES. 1/10W J 300 Ω	RRXAJR5Z0301
R2504	CHIP RES. 1/10W J 300 Ω	RRXAJR5Z0301
R2505	CHIP RES. 1/10W J 120 Ω	RRXAJR5Z0121
R2511	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R2512	CHIP RES. 1/10W J 820 Ω	RRXAJR5Z0821
R2513	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R2514	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R2515	CHIP RES. 1/10W J 2.7k Ω	RRXAJR5Z0272
R2516	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R2519	CHIP RES. 1/10W J 150 Ω	RRXAJR5Z0151
R2521	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R2522	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R2523	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
SWITCHES		
SW2501	TACT SWITCH KSM0614B	SST0101HH013
SW2502	TACT SWITCH KSM0614B	SST0101HH013
SW2503	TACT SWITCH KSM0614B	SST0101HH013
SW2504	TACT SWITCH KSM0614B	SST0101HH013
SW2505	TACT SWITCH KSM0614B	SST0101HH013
SW2506	TACT SWITCH KSM0614B	SST0101HH013
SW2508	SWITCH TACT KSM0634B PB(F)	SST0101HH036
MISCELLANEOUS		
B-9C	BUSH LED(F) H3700UD	0VM409508
B-9D	BUSH LED(F) H3700UD	0VM409508
B-9A	BUSH LED(F) H3700UD	0VM409508
B-9B	BUSH LED(F) H3700UD	0VM409508
B-9E	BUSH LED(F) H3700UD	0VM409508
JK2501	S TYPE JACK DMD1-3411PP003	JXEL040RP002
JK2502	RCA JACK(YELLOW) MTJ-032-05B-20(B110)	JXRL010LY135
JK2503	RCA JACK(WHITE) MTJ-032-05B-22(B110)	JXRL010LY136
JK2504	RCA JACK(RED) MTJ-032-05A-21(B110)	JYRL010LY029
JP2501	PCB JUMPER D0.6-P5.0	JW5.0T
W3	FFC AV-PW 30P 30PIN/ TL90MM	WX1E4340-003
W4	FFC AV-SW 20P 20PIN/ TL140MM	WX1E4340-004

OPEN/CLOSE CBA

Ref. No.	Description	Part No.
	OPEN/CLOSE CBA (PW/SW-C) Consists of the following:	--------
DIODE		
D2507	LED(RED) 1254IT	NPQZ0012541T
RESISTORS		
R2517	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
SWITCHES		
SW2507	TACT SWITCH KSM0614B	SST0101HH013
SW2509	TACT SWITCH KSM0614B	SST0101HH013
SW2510	TACT SWITCH KSM0614B	SST0101HH013
MISCELLANEOUS		
B-9F	BUSH LED(F) H3700UD	0VM409508

ATA CBA

Ref. No.	Description	Part No.
	ATA CBA Consists of the following:	1VSA11917
CONNECTORS		
CN3001	IDC SOCKET 40PIN VT YKF43-0025	JCYKC40JC002
CN3002	FPC/FFC CONNECTOR(40PIN) FH12-40S-0.5SH	JCFHD40HQ001

EWH100F
E4340UD
2005-12-09